University of Alberta

Women in trades: Policy in theory and policy in practice

by

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ABSTRACT

There have been many pieces of legislation geared to promoting the skilled trades as a viable career option to women, but my main point in this research is that none of these policy initiatives and programs have resulted in distinctly advancing women's presence in the industrial field as skilled trade workers. In many ways, the industrial field's current structure closely resembles the early to mid 1900's organization of work. This field is remarkably well-preserved and seemingly impervious to outside influences, especially when policies designed to increase women's participation in industrial skilled trade occupations are considered. In support of my assertion, the industrial stakeholders in this research project clearly stated that most policies as well as other initiatives and programs to promote women's work and learning opportunities in the industrial field do not work.

The notion that skilled trade workers are white heterosexual men is based on history, perpetuated by stories, and, in some cases, supported by government and corporate policies. Within this context, I scrutinize and theorize practices that make it possible for men and acculturated women to maintain this field and workplace habitus. I examine the nature, structure, and organization of the industrial field and how these constructs influence and are influenced by historical and current social, political, and economic happenings.

Yet, the women who work as skilled trade workers in this field (who have not quit) find ways to navigate and negotiate locations of resistance: for example, ignore, accept, or challenge. There are select women-only pre-apprenticeship programs, often

without sustained policy support, that help women learn how to work as skilled trade workers. These training providers make the industrial field's history, occupational and organizational cultures, and organization of work transparent because of their pedagogical approach and their understanding of the masculinized habitus. I recommend that these programs be used as models to develop effective policies to advance interested women's access to skilled trade occupations.

DEDICATION

To my dad, David C. Watt

One person can make a difference.

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This research was possible because of the experiences I shared with many skilled trades people during my work in the industrial field. I thank them for this unforgettable learning.

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LIST OF ABBREVIATIONS

CJS	Canadian Jobs Strategy
DGP	Designated Group Policy
EI	Employment Insurance system
LMDA	Labour Market Development Agreement
SET	Science, engineering, and technology
VET	Vocational education and training

CHAPTER ONE

INTRODUCTION

> *You kind of have to have a thick skin to go into this [industrial] field because the guys, they are going to be guys...you know boys will be boys. And for hundreds of years this has been their work and now it's women coming in. (Comment from an apprentice)*

It is now thirty years since I began my career as a skilled trade worker in the industrial field and it amazes me that people still have the notion that this field belongs to men. A case in point is the young apprentice who shares her views in the above excerpt. Her words intrigue me. She is a newcomer to this field and her comment emphasizes a common perception about industrial work and who performs this paid work – a perception that I study throughout this document.

In this chapter, I describe my research purpose followed by an explanation of the significance and contribution of this research. I then outline my orientation to this research including my background and motivation. I also describe the chapters herein.

Research purpose

This research started with an idea to explore the gendered nature of the industrial field within a policy framework. However, this naïve notion slowly evolved into a project that delved deeper into a classed and gendered aspect of society that is remarkably well-preserved and seemingly impervious to outside influences, especially when policies

designed to increase women's participation in the industrial field are taken into account. I consider the nature, structure, and organization of the industrial field and how these constructs influence and are influenced by historical and current social, political, and economic happenings. I put forward this thesis, not to belabour the idea that masculinized workplaces have for a lengthy period of time (maybe since the beginning of recorded history) set up a series of gate-keeping mechanisms to limit women's access, but rather to scrutinize and theorize practices that make it possible for men and acculturated women to maintain this industrial field and habitus.

Embedded in this research project is my unwavering interest in how women gain access to this field, learn skilled trade concepts, manage the work as well as the organizational and occupational cultures, and generate work relationships, with or without policy. Essentially, I theorize industrial workplace practices. Thus, the purpose of this research is to examine how policies and programs put in place by governments and associated agencies to advance Canadian women's participation in the industrial sector as skilled trade workers are acted out in the education setting and in the workplace. In particular, my question is how can I better understand the locations of resistance to the implementation of pertinent policies, programs, and funding initiatives despite the past and present demand for skilled labour within the trades that are commonly connected with industrial work in Canada? I explain the significance and contribution of this research in the next section.

Significance and contribution of research

While working through this research project, talking with my research participants, studying our conversations in conjunction with scholarly literature and theoretical concepts, I realize that most men and women who work in the industrial field know that the industrial field is not welcoming for women. The notion that skilled trade workers are white heterosexual men is based on history and perpetuated by stories. Workers share their stories orally with co-workers in informal settings – during lunch and coffee breaks, and after a hard day's work. However, I argue, as with most collectives, that despite multiple genders, religions, ethnicities, classes, abilities, capabilities, and educational backgrounds that make up the grouping of skilled trade workers in these workplaces, the industrial field still belongs to men. The industrial field and its related skilled trades work is a masculinized space and the women who work in this field either find ways to navigate and negotiate locations of resistance or leave. What is not articulated through stories or otherwise are the strategies women use – to ignore, accept, or challenge the resistances they encounter in the hiring process and, even more so, when they arrive on industrial jobsites.

Notwithstanding the strategies used by women to manage workplace dynamics, the number of women who work as skilled trade people in the industrial sector has not increased significantly during the past 30 years. This observation is based on my extensive and long-term involvement with the industrial sector through my work, education, volunteer, and research activities, and is of particular concern to me when policies and programs designed to increase women's presence in the trades are considered. There have been many pieces of legislation geared to promoting the skilled

trades as a viable career option for women, but my main point is that none of these policy initiatives and programs have resulted in distinctly advancing women's presence in the skilled trades, especially in the industrial field. In support of my assertion, the industrial stakeholders in this research project clearly stated that most social, labour, and vocational education and training policies as well as other initiatives and programs to promote women's work and learning opportunities in the industrial field do not work.

It is within this framework that I explore the experiences of 14 women and men who are involved in the industrial field as tradespersons and/or apprentices, employers, educators, and government personnel. The skilled trades that pertain to this research are in the industrial and mechanical trades (e.g., boilermaker, insulator, and instrument mechanic) and metal fabricating trades (e.g., sheet metal, welder, and steamfitter-pipefitter). These select trades are associated with Canada's industrial field, for example, the oil and gas, pulp and paper, and chemical industries. My research focus is this specific subset of the trades because they are viewed by industry as remarkably non-traditional for women in the sense that women do not often consider these occupations as a career option nor are women normally invited to apply for these skilled trade jobs.

Within the academic arena, my study addresses a gap in the scholarly literature. There is limited scholarly research from a policy perspective about the apparent resistance to women working in the industrial field. Although some researchers have examined policies in conjunction with women's work and education, they do not explicitly investigate policies designed to promote the industrial trades as a career choice for women. Furthermore, these researchers do not explore, at the proletarian level,

employees', employers', and educators' experiences and views about related policies. The scholarly significance of my research attends to this disparity.

From a practical perspective, the significance of my research is to contribute to reducing gendered boundaries that still exist in the industrial workforce and in skilled trade apprenticeships. I use the data from this research to uncover potential themes and insights for future research and to develop policy recommendations to advance women's education and career options in the industrial trades. For example, there are select women-only pre-apprenticeship programs, often without sustained policy support, that take into account the industrial field's history, occupational and organizational cultures, and organization of work in their program design. These programs are models that can be used to develop effective policy to help interested women gain access to skilled trade occupations.

In the next section, I articulate my situated knowledge and experience as well as my motivation to conduct this research.

My orientation to this research: Background and motivation

For this research, I draw on my personal career and learning history, which has given me extensive experience in the industrial field. I have worked as a tradesperson, a site superintendent, a project manager, and an estimator. Throughout this document, I include personal reflections and observations to elaborate points made by the participants. I add another perspective about people's actions, behaviours, and attitudes that (re)produce a habitus, which exemplifies masculinized work cultures in Canada's industrial field. Briefly, Bourdieu (1998) refers to habitus as the principles that guide

peoples' practices and attitudes. Habitus is shaped by an individual's family and school as well as his/her work environment, which creates a "unitary set of choices of persons, goods, and practices" (Bourdieu, p. 8). I elaborate the habitus concept more fully in Chapter 6.

However, because of my work and education experience, I understand that there is the potential to impose my experiences onto those of my participants. Since I am aware of this possibility, I am careful to document the participants' comments and meanings as they conveyed them to me and identify myself when I contribute to the text.

My orientation to this research is complex. I am a product of the industrial field and the habitus of a skilled worker, which is now layered with my experience of the academic field traditions. These two fields seldom meet. However, in this project, I hope to bridge the practical, the industrial, with the academic, the theoretical. I elaborate my practical background in this section, and further demonstrate how practice informs theory and vice versa in the following chapters.

As a product of the industrial field, according to Bourdieu (1990), I am acculturated and subsequently committed to the *doxa* – the presuppositions of the field and the corresponding worker habitus. Even though a person could reject the doxa, I found that adopting some of the attitudes and characteristics that make up the habitus made it possible for me to survive in this environment. Bourdieu also purports that habitus is established in practice and to examine this practice, one must "return to practice…of the objectified products and the incorporated products of historical practice" (p. 52). For me, a return to practice encompasses three specific products or objects of study: Locations, people, and skills and knowledge. In the next three sections, I articulate

a few of my experiences about being a skilled trade worker in Canada's industrial field within the context of these objects of study.

Locations. My first jobsite – that first day on a very large jobsite in northern Alberta when I went to breakfast, I did not know what I would encounter. I walked into this room, which could easily sit 700 people, and at six o'clock in the morning this mess hall was full of men. I did not see one woman. I walked to the buffet, at the other end of this huge room. I must admit I was a quivering mass of nerves – the room became very silent – there was no noise. I got my toast, but that was the last breakfast I ate in that mess hall, even though I worked on that jobsite for a couple of years. Some people will ask, "Why didn't you quit that first day?" I do not have an answer. I was naïve. The notion of *naïve* is also a topic that some of the research participants brought forward in our interviews. I develop this concept in Chapter 6.

Another aspect of locations for me is the travel in the most horrendous weather and road conditions – the snow, ice, rain, and mud – just to get to the jobsite because a job needed to be done. With little hand drawn maps, I found these jobsites miles from any forms of civilization, in the most obscure places in western Canada. Jobsites were near the mountains, on the mountains, in the muskeg, and in the dry, hot, dusty prairies. Once I arrived at the jobsites, there were camps: tiny square cubicles I lived in for months on end with the mess halls, bull cooks, rules and curfews, and sporadic trips to the nearest town after work, which could be an hour or two away. On the job, I slugged through mud. My boots weighed 20 pounds because of the clay gumbo that stuck to them. Some days I was bundled up with multiple layers of clothing – barely able to move let alone

climb heights up to 100 feet or greater with a full tool belt in the howling winds with blinding snow or torrential rains, or the intense heat of the sun in the dead of summer. But there was always the thrill of finishing one job and moving on to the next one.

People. The men and their responses to my presence on industrial jobsites helped define my industrial experience. Needless to say, these experiences are complicated as are most social interactions. There were the men who explicitly did not want me on the jobsite, as a skilled trade worker, as a superintendent, or as an estimator. On one jobsite an owner's representative stood at the bottom of a tower and watched me work for hours – a fine example of "bird-dogging." Similarly, when I was working on a different jobsite, my foreman told me to work at the top of an 80-foot tower or go home. It was my first height job above the typical pipe rack (15 or 20 feet high). Another experience that demonstrates exclusion was the phone call from a fellow about a job and when he discovered that I was the boss – hung up on me. There were also the contract discussions where I was introduced as the superintendent. These introductions were greeted with collective silences. Finally, there were the little tests. For example, the pressure to walk on a 24 inch pipe about 50-60 feet in the air (without safety equipment – not to be repeated) while my boss and I checked out a jobsite, the races up the side of a 100-foot tower, or unloading semi after semi as well as railcars loaded with material.

I was definitely visible on a jobsite; in fact, I stood out like a sore thumb. But there were men who supported and believed that I was more than capable of doing the job. These men encouraged me to get my journey ticket. I worked with crew members who taught me to laugh, enjoy the work, and be proud of what I had accomplished. There

were also men who treated me with respect and continue to do so, which I return. Furthermore, there were men who taught me to go toe-to-toe and stand firm when necessary and then shake hands afterwards. Lastly, there were the foremen and superintendents who taught me to do their jobs.

Skills and knowledge. Another aspect of my industrial field experiences was the apprenticeship process – from apprentice to journeyperson. Some men believed in my abilities and took the time to teach me the skills required to be a craftsperson – not only learn these skills, but to apply them. I acquired the confidence to do the job along with a lot of inner strength, determination, and perseverance. These same skills have proven to be building blocks for my subsequent work. I have shared these skills and knowledge more recently in many ways, because of my instructor position at a technical college as well as a women-only pre-apprenticeship training program, and my current academic work.

Motivation. I have on occasion been accused of wearing *rose-coloured* glasses, but women's limited participation in the industrial field has made a difference. Women and men who work together in the industrial field are slowly changing traditional patterns. Although I have to admit that even though these patterns may be shifting, industrial workplaces embody white heterosexual men as skilled trade workers. However, I hope that the field might be different one day – different in such a way that women, who want to work in this field do not encounter locations of resistance. It is in this spirit

of hope that I conduct this research. In the following section, I outline the organization of the chapters that follow.

Organization of chapters

In Chapter 2, I explore a variety of literature that informs my research. I describe my conceptual framework and research design in Chapter 3. In this chapter, my theoretical position is informed by Pierre Bourdieu's theory including the concepts of field, habitus, and capital, and as well as legitimacy, symbolic violence, and reflexivity. Encouraged by Bourdieu's edict not to limit oneself to one paradigm or theory, I also draw on theorists' writings located in the historical materialist feminist literature. Incorporating the ideas of these theorists juxtaposed with Bourdieu's social theory gives me an opportunity to examine the research data in more complex ways. This composite theoretical approach appeals to me because I have an opportunity or, perhaps more realistically, the liberty, within the academic arena, to link theory with practice and practice with theory by means to critically examine the research data.

I detail Canada's industrial field and associated skilled trade occupations in Chapters 4 and 5, respectively. In Chapter 4, I examine the scope of the industrial field and present a succinct description of the oil and gas industry's history to demonstrate the progress for one particular aspect of this field. I also introduce the industrial field's stakeholders. I study Canada's apprenticeship system in Chapter 5, and some policies and initiatives intended to advance non-traditional group's participation in the skilled trades. These elements are the background knowledge needed to understand the current industrial field and how workers construct their habitus. In Chapter 6, I analyze my

research themes and further theorize the practices of the industrial field through the research participants' perceptions juxtaposed with related scholarly literature.

Keeping in mind the information presented in the previous chapters, in Chapter 7, I investigate how three select training organizations are putting into practice what some people who are familiar with the industrial field know in theory. As will be shown, the industrial field is constructed in particular ways and reinforced by a habitus founded on masculinized characteristics that are valued, and are a form of capital. However, the difficulty is that women are not perceived, even if they do, to embody those same kinds of experiences and social conditioning that make it possible for men to perform the necessary tasks in these workspaces.

The women-only pre-apprenticeship training programs I examine in Chapter 7 are helping women understand the masculinized nature of the work, not just teaching them the basic skills and knowledge required of skilled trade workers. Essentially, these programs teach women to negotiate and navigate the industrial field. In investigating these training programs, I extend my thematic analysis and detail how these programs are models that can inform policy. Lastly, in Chapter 8, I present concluding comments and offer ideas for future research that have the potential to affect policy, especially training policies designed to help women learn how to work in Canada's industrial field.

In the following chapter, I examine pertinent literature to establish the foundation for my thematic analysis. The scholarly literature I explore in this chapter draws attention to social and training policies, women working in non-traditional occupations, skilled trade training, and industrial workplace cultures.

CHAPTER TWO

LITERATURE REVIEW

Writers of newspaper, trade, industry, and government publications have recently drawn the general public's attention to the skilled trades because of industry's need for knowledgeable workers. Some writers comment on the low number of women employed in the industrial field with a few highlighting training possibilities to promote trades as a career to women. However, scholarly publications about women as industrial skilled trade workers are not as common. Even less common is scholarly research about women and industrial skilled trade work and related social, training, and labour policies. Therefore, in this chapter, I bring together literature from a variety of disciplines to help inform my research. I first describe the historical progression of select social, labour, and training policies followed by an investigation of women's work roles in the public domain. In this section, I review scholarly literature about pioneering women working in non-traditional occupations; gender, patriarchy, and work; and women working in skilled trade occupations. Although I draw attention to literature that examines occupational and organizational cultures, I elaborate this topic in the chapters that follow.

These literature themes are not isolated entities. They overlap and connect in countless ways, yet few writers link these topics. I discuss them separately in this chapter to expand themes, fundamental tenets, and entrenched assumptions; however, the relationships between these topics are documented in the following chapters. Through the process of elaborating these connections, I hope to add to the scholarship about women as

skilled trade workers, skilled trade training, related policies, and industrial workplace cultures.

Laying the foundation: Canadian social and vocational education and training policies

Pal (2001) contends that "policies are largely 'instrumental' – that is, they are not ends in themselves, or even good in themselves, but are instruments or tools to tackle issues of concern" (p. 3). Policies have been put in place to address the "why are there not more Canadian women in the trades" issue. Governments, associations, and corporations continue to allocate monies for training and education programs; media campaigns to promote trade apprenticeships as worthwhile career choices; and bridging programs offered by governments, schools, and not-for-profit organizations that introduce women to a variety of trades. In this section, I document select social, labour, and vocational education and training (VET) policies and describe the trajectory of these policies from the early 1900s through to the 2000s as they pertain to women's paid work participation and their work in the skilled trades. I note the founding of Canada's apprenticeship system here and broaden this topic in Chapter 5.

The *British North America Act* (BNA) (1867) and the subsequent *Constitution Act* (1982) assigned specific responsibilities to federal and provincial governments with regard to social policies (Rice & Prince, 2000). The federal government was sanctioned to enact legislation that dealt with trade, commerce, marriage, and divorce; whereas, provincial governments were authorized to control local property and civil rights as well as sanctify marriages (Canadian Lawsite, 2003). However, societies are not static.

Subsequent federal and provincial policies were introduced because of public demands about, for example, women's rights as citizens.

Governments enacted policies between 1872 and 1922 (1940 in Quebec), which allowed women to own property. Women also fought for legislation to lawfully keep their earnings; thus, legislation was passed prior to 1897 (1931 in Quebec) to address this concern. Provincial minimum wage legislation was also passed in 1918 through to 1922 (excluding Prince Edward Island and New Brunswick) (Burt, 1993). Notwithstanding these developments, it was still evident that legislators were of the opinion that women belonged in the private realm and men were more suited to the public arena. Of particular importance is the underlying contradiction that governments were endorsing work and workplace equality, yet they still expected women to remain in the private realm. However, federal, provincial, and territorial governments were compelled to reclassify women as "persons" in the early to mid 1900s. Women were given the right to vote in federal elections in 1918 with the exception of Aboriginal women. Voting rights in provincial and territorial elections were legislated in 1916 (Alberta, Saskatchewan, and Manitoba) through to 1951 (Northwest Territories) (Status of Women Canada, 2003). This right to vote gave women a connection to society outside the family, yet the expectation was that women only vote to improve family and home.

During the early to mid 20th century, government services expanded significantly. The federal government recognized that subsidized education and occupational training would advance industrial development. A visible example of this mandate was the 1910 Royal Commission on Industrial Training and Technical Education, which, in 1913, published a report that outlined Canada's future. Broadly, Canada would become more

industrialized and involved in foreign trade; therefore, it would be imperative for Canadians to be trained in specific occupations (Hunter, 1994). The report also stressed that training opportunities should be equally accessible to all people (D. Young, 1992). A direct result of this Royal Commission was the *Agricultural Instruction Act* (1913) and, as the title suggests, this act provided substantial funds for agricultural training. Under this act, employers and employees were also expected to develop women's occupational programs, explicitly, courses in housekeeping. Although this act contributed to Canada's agricultural sector, concerned business, labour, and women's groups lobbied to have federal monies allocated for non-agricultural educational incentives. The result of this outcry was the *Technical Education Act* (1919).

Despite the downturn in the economy during the Great Depression, Canada's industrial sector grew rapidly, which provided employers the means to increase their revenues, frequently at the expense of women's economic welfare. Employers in the late 19th to mid 20th century were instrumental in defining women's paid work roles. Factory owners hired women "as cheap unskilled or semiskilled labourers who, according to prevailing stereotypes, would be less likely to unionize and more tolerant of boring tasks" (Krahn & Lowe, 2002, pp. 161-162).

Married and single women's work roles were further delineated. Married women were expected to stay home and take care of the family, though it was considered appropriate for single women to obtain paid employment. Reformers upheld the notion that women's paid workforce involvement needed to be curtailed. They urged employers to restrict women's participation in the industrial sector because it was believed that this work would cause harm to women and society. Legislators' values and beliefs were in

harmony with this discourse; for example, a man was legally entitled to control family finances, manage his wife's wages, own property, and dictate his wife's citizenship (Burt, 1993). Government policies mirrored society's notions regarding women's proper home and work roles; however, the fundamental premises underlying these ideals were shifting.

Subsequent to the suffrage period and during World War II, governments and society were more open to women working in the industrial field. Industry needed skilled labour. Incentives such as day care and tax concessions were presented to women to tempt them into the workforce; albeit, at the end of the war these enticements were withdrawn (Burt, 1993). In addition, the federal government implemented the War Emergency Training program (1940) and distributed monies to train people for war industries (D. Young, 1992). Interestingly, in 1942, a member of a special vocational training committee stated that the proportion of women "in our programme is increasing rapidly, and I would think that before the end of this summer we will have far more women in training than we have men" (Canada Parliament, 1942, p. 4). Although many women received industrial training, at the end of World War II, the federal government, which had promised returning service personnel their pre-war jobs (Hunter, 1994), had to persuade women to go back to domestic service. The majority of women who had entered the labour market or had taken on higher-paying industrialized jobs returned to domestic service or withdrew from the workforce.

Establishing quality training programs became imperative during the mid 1900s. The apprenticeship system was instituted to advance Canada's skilled trades. In Canada, the apprenticeship system is more accurately comprised of 13 systems given provincial and territorial legislative responsibilities for education and training. Even though the

apprenticeship educational structure had been considered since the 1920s, few provinces and territories showed the initiative to generate apprenticeship agreements; rather, they supported informal apprenticeships. It was not until 1942, when the *Vocational Training and Co-ordination Act* was legislated, that provinces and territories began to develop formal apprenticeship agreements. This occurred because the federal government announced that it would pay half the training costs if the province or territory had an apprenticeship act. Under these agreements, apprentices were registered in their home provinces and indentured to a responsible employer, organization, or industry (D. Young, 1992). I examine Canada's apprenticeship system in more detail in Chapter 5.

In this post-wartime period, Canada became a welfare state. Governments were entering policy areas previously outside their jurisdictions (i.e., income security, employment, and family allowance). Embedded in this transition to a welfare state was the connection between family, women, and a growing economy. By way of illustration, the federal government's primary motive in developing a national family allowance program was that women would stay home, give birth, and raise their babies to be sturdy, committed, and industrious employees (Burt, 1993). Burt contends that the 19th century "mother was viewed as the moral guardian of the nation…[and the 20th century] mother was viewed as the producer of workers for an expanding economy" (p. 220). Despite the positioning of mothers as either moral guardians or producers of workers, progressively more women attended secondary and post-secondary educational institutions because of government incentives and industry demands. The war taught governments that they needed healthy and knowledgeable citizens and employers wanted both a healthy and educated workforce (Armstrong, 1997).

Another federal government policy that changed Canada's work and workplaces was the *Unemployment Insurance Act* (1940). This act established a National Employment Service and a Canadian-wide unemployment insurance system. In the 1950s, this act was amended to include a non-discriminatory policy (Hunter, 1994). Federal government contracts and the *Canada Fair Employment Practices Act* were revised to reflect this philosophy. Even though this act promoted non-discriminatory practices, it is significant that gender was not included. The federal government's Department of Labour rectified this situation somewhat in 1954 by forming the Women's Bureau. This organization was charged with the mandate to provide employment opportunities for women and to increase awareness of women's workforce involvement. The Women's Bureau is credited with co-authoring the 1956 federal equal pay legislation. Parallel policies were developed at the provincial level, for example, Ontario enacted laws in 1951 to ensure women and men received equal pay for equal work. In 1970, Newfoundland was the last province to endorse similar legislation (Burt, 1993). Even so, a weakness of these policies was that most occupations were gender segregated because women and men typically did not work in the same occupations and men's occupations tended to be better rewarded.

In 1960, federal and provincial vocational education initiatives were grouped under the *Technical and Vocational Training Assistance Act* (Hunter, 1994). An amendment to this act in 1972 eliminated the need for people to be in the labour force for three years because it became clear that this act was unfair to women trying to re-enter the workforce. In the late 1960s, the *Adult Occupational Training Act* (1967-1982) was enacted and it was during this time that apprenticeship training solidified under the

Canada Manpower Institutional Training Program. This program established provincially-directed classroom training for specific trades, training agreements with employers for on-the-job training, requirements for apprentices to be effective workers, and apprentices to work with journey people (see Chapter 5). Another government initiative was the Canada Manpower Training on the Job (1971 to 1982), which offered transferable skill training, especially for women re-entering the job market, to support employers' labour development plans (D. Young, 1992). Additionally, the Women's Employment Strategy was designed to increase the number of women enrolled in non-traditional occupational training programs.

In the 1970s, equity became more of a social issue and a public policy problem. This awareness was due, in part, to the 1970 Royal Commission on the Status of Women. Correspondingly, the Affirmative Action Strategy was implemented in the 1970s to reduce inequities and the *Employment Equity Act* (1986) was established to right historic discriminatory injustices directed towards women, visible minorities, Aboriginals, and persons with disabilities (Status of Women Canada, 2003). This act affected federally-controlled businesses and corporations, and was revised in 1995 to include federal public services, but private industry was not required to follow these equity guidelines.

Women's groups were also pivotal in initiating changes in Canada's work and workplaces (Armstrong, 1997). For example, the National Ad Hoc Action Committee on the Status of Women held a "Strategy for Change" conference in 1972. Three programs were the outcome of this meeting: Canadian Advisory Council on the Status of Women, Status of Women Canada, and the Secretary of State Women's Programme. It was during this time the United Nations declared 1975 as International Women's Year, but one year

was insufficient; therefore, International Women's Year was redefined to a decade (Womenspace, 2002).

In an attempt to foster equity, the *Canadian Human Rights Act* was adopted by parliament in 1977 (Status of Women Canada, 2003) and, with a similar directive to proscribe discrimination, the *Canadian Charter of Rights and Freedoms* was enacted in 1982 (Department of Justice Canada, n.d.). These policies addressed discriminatory hiring and retention practices: Employers could not discriminate because of marital status or pregnancies (Armstrong, 1997). Regrettably, systemic barriers, such as height and weight restrictions, remained (Burt, 1993). Eliminating inequitable hiring, retention, and promotion practices by means of policies that address equity issues have proven to be difficult (Wallace, 2002). One reason for this continued inequity may be that inclusive workplaces are designed to redistribute wealth, but stakeholders hesitate to endorse policies that reduce their access to resources (Fleras, 2001).

Canada's need for skilled labour continued into the 1980s and 1990s. Training for skill advancement in occupations to aid the nation and further individuals' earnings (D. Young, 1992) were encouraged by the federal government's *National Training Act* (1982). In 1985, the Canada Employment and Immigration Commission implemented the Canadian Jobs Strategy (CJS). This initiative did not replace the *National Training Act*; rather, CJS replaced a few of the programs under it. CJS was implemented to meet Canadians' training and occupation development requirements and to connect skill training with regional economic activity and labour market needs. Groups identified in federal equity policies such as visible minorities, persons with disabilities, women, and Aboriginals were the primary recipients for training initiatives.

In 1996, the federal government repealed the *National Training Act* during the process of revamping Canada's Employment Insurance (EI) system. In accordance with the revised legislation, the EI system is no longer responsible for training delivery or provincial and territorial employment services (A Commitment to Training and Employment for Women (ACTEW), n.d.) due to the implementation of Labour Market Development Agreements (LMDAs). Under the LMDAs, federal monies are transferred to provinces and territories. Although these monies are managed according to the LMDAs, solely by the provinces and territories or co-managed with the federal government, EI legislation directs who will receive training dollars. Training is typically provided for people who qualify for EI, which puts many women, who are often ineligible for EI, at a disadvantage (Critoph, 2003).

Another outcome of the LMDAs is that the Designated Groups Policy (DGP) (1991) was essentially eliminated in 2001 whereby the federal government no longer required provinces and territories to acknowledge or address equity group needs (ACTEW, n.d.). Despite the elimination of the DGP, the federal government and a few provinces have initiated policies to advance employment equity. The federal government has put in place mechanisms to aid Aboriginals, disabled persons, and, at times, youth who require additional support to participate fully in Canada's labour market. However, women and ethnic minorities are not currently targeted for training incentives (Critoph, 2003). Whereas, provinces such as Saskatchewan, Manitoba, British Columbia, Quebec, New Brunswick, Prince Edward Island, and Nova Scotia have established employment equity policies, only British Columbia, to date, has enacted legislation (Bakan & Kobayashi, 2000).

Federal, provincial, and territorial governments have used social, labour, and VET policy devices to redirect the skills of Canada's labour force. Throughout the 20th century, governments, industry, and society anticipated and responded to economic growth. Industry needed skilled labour to meet the demands of a growing economy; therefore, government training policies were implemented. Social and labour policies were also used to retain distinct boundaries between public and private domains. Agencies were setting and perhaps manipulating the policy agenda to define the public and private and establish what issues were important, whose positions were considered, and what resolutions were possible (Brooks & Miljan, 2003). Workplaces were being transformed due to an increasingly diverse workforce and emerging work inequities (Fleras, 2001). How problems were perceived and the subsequent structuring of these issues continue to influence Canada's work, workplaces, and women's and men's roles in private and public spheres. In the section that follows, I further explore scholarly literature about women working in the public domain with a particular focus on pioneering women working in non-traditional occupations.

Women and the public domain

Phillips (1983) remarked over twenty years ago that occupations are gender biased and classified as feminine or masculine – divisions that persistently reassert men's dominant presence in paid work. This observation has relevancy in the beginning of the 21st century and is supported by Tilly's (1998) contention that gender is used to place people into certain occupations, which sorts people, not just in hiring practices, but also in the retention, training, and promotion processes. In Canada, over the past 50 years,

more women are working for wages or salaries outside the home with a disproportionate number of women working part-time and, for the most part, in the service sector (Statistics Canada, 2007a). It is from this perspective that I examine scholarly literature about pioneering women with a focus on their work in science, engineering, and technology (SET), business, and educational administration sectors. This literature reaffirms the consistent resistance men have to women entering occupations traditionally considered men's work. A "non-traditional occupation" for women is defined as a profession that predominantly employs men. I incorporate McKinnon and Ahola-Sidaway's (1995) criterion that non-traditional occupations are those where women represent less than 30 percent of the workforce.

In the next section, I draw attention to pioneering women who work in occupations traditionally associated with men. It is my intent to bring to the forefront a reoccurring pattern of resistance. I follow the "Pioneering women" section with an investigation of literature pertaining to gender, patriarchy, and work and then review writings about women working in non-traditional occupations such as trades, technology, and operations.

Pioneering women: Establishing a pattern of resistance. Researchers' and scholars' writings from Canada, United Kingdom (UK), United States (US), and Australia emphasize an underlying assumption in this research. Specifically, there is a persistent pattern of men's resistance to women taking on paid work in what were and, in some cases, still are jobs classified as men's work – such as SET, business, and educational administration occupations.

Locations of resistance can be found in the SET sector (e.g., Hughes-Bond, 1998; Cronin, Foster, & Lister, 1999; Siann & Callaghan, 2001; Padavic & Redskin, 2002), in business and in various government departments (e.g., Kanter, 1977; Cockburn, 1983, 1991), and leadership and educational administration positions (e.g., Reynolds & Young, 1995; Blackmore, 1999). Siann and Callaghan, Padavic and Reskin, and Hughes-Bond suggest that there are complex societal influences that shape gender occupational roles in SET occupations in that they are perceived to be acceptable careers for men, but not for women. Similarly, women administrators are noticeably absent in the education system. In recent years, researchers have endeavoured to render visible the barriers that restrict women from pursuing and obtaining educational administration careers (e.g., B. Young, 1992; Arnot & Weiler, 1993; Reynolds & Young, 1995; Reynolds, 2002; Wallace, 2002; M. Young & Skrla, 2003). Researchers studying women's locations in educational administration, business, as well as SET careers, often from a feminist and/or critical perspective, have sought and continue to problematize gender (see page 28 for a more detailed discussion of gender, patriarchy, and work) as well as race and class inequities embedded in recruitment, hiring, training, promotion, and retention practices.

Notwithstanding pioneering women's efforts to change the status quo, statistics demonstrate the resilience of the labour market to pigeon-hole women into particular occupations despite women's increasing education credentials and participation in the paid workforce. Thirty-eight percent of women worked for pay in 1970; in 2000, 59.5 percent of women were engaged in paid work (Krahn & Lowe, 2002); and 57 percent of women were in the workforce in 2003 (Statistics Canada, 2004a). During the 1990s recession, the number of women employed dropped to approximately 52 percent.

Although these statistics illustrate the contraction and expansion of women entering and leaving Canada's paid labour force, provincial employment percentages more clearly outline regional variances due to converging economic, political, and social conditions. Table 1 below, documents provincial percentages of women and men engaged in paid work aged 15 years and older from 1976 to 2003.

Table 1. Provincial and Canadian Percentages of Working Women and Men Aged 15 Years from 1976 to 2003

Provincial and Canadian Percentages of Working Women and Men Aged 15 Years from 1976 to 2003

Location	1976		1985		1990		1995		2003	
	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men
	Percentages									
Newfoundland	27.9	57.6	34.4	51.9	41.0	53.4	39.2	47.8	46.5	52.8
Prince Edward Island	38.5	67.1	44.4	62.7	49.2	62.8	50.4	60.6	57.6	64.1
Nova Scotia	35.9	65.7	41.7	61.2	47.9	63.5	46.1	59.1	53.2	61.7
New Brunswick	34.1	62.2	39.8	56.9	45.9	59.8	47.6	58.1	53.2	60.1
Quebec	37.4	70.4	44.1	65.9	48.6	67.0	48.0	62.3	54.6	65.6
Ontario	46.0	75.3	53.1	72.6	57.6	73.2	53.7	66.4	58.4	69.2
Manitoba	44.3	73.9	50.9	70.2	54.9	70.4	55.5	68.8	59.8	71.4
Saskatchewan	41.2	75.0	49.7	71.2	53.7	70.3	54.7	69.0	59.2	69.7
Alberta	49.2	80.1	56.0	74.5	59.8	75.4	60.2	73.1	63.4	75.8
British Columbia	41.7	71.3	46.7	64.0	53.6	68.6	54.4	67.2	55.5	64.9
Canada	42.0	72.7	48.8	68.6	53.7	69.9	52.3	65.5	57.2	67.7

Source: Statistics Canada (2004a).

Women's workforce participation has grown, as indicated in Table 1 above, but these statistics do not expose the static state of gendered work segregation (Armstrong, 1997) or the feminization of some occupations. Probert (1999) proposes that the debates about the feminization of the workforce have centered on gender roles. A significant concern in this debate is horizontal segregation. Women are usually employed in occupations on the lower end of the hierarchy such as retail, service, nursing, and

childcare (Gunderson, 1998). In 2003, 70 percent of Canadian women were employed in the service sector (sales, service, clerical, teaching, nursing, related health and welfare careers) in contrast to 31 percent of men (Statistics Canada, 2003a).

In addition to the dominant presence of women in the service sector, it is not unusual for Canadian women to work part-time. Since the 1970s, women have accounted for 70 percent of all Canadian part-time workers. In 2003, 28 percent of employed women in their primary job worked less than 30 hours in a week in comparison to 11 percent of working men (Statistics Canada, 2004a). However, even if women have fulltime paid employment, their long-established presence in the service sector has resulted in considerably less overall income when compared to men's compensation. In 1970, women's fulltime, full-year earnings were 61.6 percent of men's earnings; in 1980, women's wages were 66.6 percent of men's; and in 1990, women's pay increased to 71.4 percent in comparison to men's wages (Gunderson, 1998). Recent figures from Statistics Canada (2003b) indicate that women's earnings were 70.9 percent of men's incomes in 2000.

Krahn and Lowe (2002) further suggest that the segregation of women's work and men's work can be attributed to social traditions as well as influences of the labour market and education systems. An indisputable outcome of this labour segregation is men's tendency to control structural power through their possession of resources (e.g., money, self-worth, and respect) (Nelson & Robinson, 2002). Bouchard, Boily, and Proulx (2003) dismiss the notion that women and men have similar positions and status in society because this view disregards who controls the resources. Thus, from a socioeconomic standpoint, men are in a position of power, especially in the hiring,

retention, and termination of employees, whether women or men (cf. Kanter, 1977). Even if men work in occupations characteristically associated with women, they are frequently located in the senior status positions (Probert, 1999). Steinberg and Haignere (1991) maintain that:

> [W]ork done primarily by women and minorities is systematically undervalued because the work has been and continues to be done primarily by women and minorities. By systematic undervaluation, we mean that the wages paid to women and men engaged in historically female or minority work are artificially depressed relative to what those wages would be if the jobs had been and were being performed by white males. (p. 154)

McDowell (1999), in support, suggests that women are viewed as "inferior bearers of labour power" (p. 146). Wages received by Canadian women, noted above, endorse this assertion as does the tendency for women to work part-time (Bierema, 2001). Probert (1999) refers to women who work part-time as a contingent workforce. This trend is occurring despite women having the necessary education and credentials to work in alternative careers such as SET, business, and educational administration. Another contributing factor that determines women's workforce participation and their rate of pay is that they have traditionally left the workforce to take care of their children or other family members. These familial obligations, which may require prolonged absences, are often interpreted as lack of dedication and commitment to their paid work careers.

In the following section, I build on the literature presented here and examine links between gender, patriarchy, and work.

Gender, patriarchy, and work. Society tends to organize the social categories of *woman* and *man* according to identifiable characteristics, which are further grouped into feminine or masculine classifications (Clatterbaugh, 1990). This approach is rather limiting and takes on a simplistic view of gendered identities. Holter declares that:

> [M]asculinity and femininity are not simple opposites...gender emerges as an 'expression of the whole relationship between the spheres of production and reproduction....gender articulates a basic class relationship, inherent in the wage labour relationship itself. The 'one' of wage labour is *work*, and the one doing it is *he*. The 'other' is free time, freedom, not as universal freedom, but as posited by the first, relative to work.' (cited in Connell, 2000, pp. 22-23, *italics in original*)

Notions articulated in the above excerpt are the basis for a dominant societal arrangement that fosters and maintains work inequities – patriarchy. This arrangement promotes systems controlled and governed by men (Cockburn, 1983) and those women who have adopted "man-like" qualities to gain social, political, and economic rewards. Patriarchy creates barriers between women and men, which frequently oppress women *as women* and elevate men's status *as men* (Frye, 1983). Even though Holter, cited above, suggests that femininity and masculinity are not "simple opposites," women are often viewed as *the other*, a segment of society that distinguishes and creates what it means to be masculine. Femininities are classified as the emotional. Masculinities are categorized as rational and disciplined (Deutscher, 2002). According to D. Smith (1999), an inherent aspect in these divisions is "ruling relations" (p. 73). Smith suggests that women are

associated with the private, essentially, the home and the family; whereas, men are most often coupled with the public sphere – paid work.

One of the contributing factors underpinning the distribution of power and ruling relations is the pervasiveness of stereotypes. Preconceived notions of women's and men's work are often established early in life. Childhood socialization interactions, in schools and familial contexts, contribute to the confusion about how work will be a part of a woman's life (Hughes-Bond, 1998) as well as men's (Bouchard, Boily, & Proulx, 2003). Schools are not a reliable mechanism to reduce occupational boundaries that seem to delineate women's and men's work. Hughes-Bond asserts that schools promote neutrality, which often advances gender stereotyping. D. Smith (2000) further notes that within schools, "class, race, and gender emerge as dynamic and exclusionary groupings formative in students' identities and associations" (p. 1149). Hence, most girls and women consider work and education selections based on a limited set of options. These options are restricted often through women's own perceptions of what is proper and acceptable. Researchers' writings about pathways from school to work, in particular, youth school-work transitions (e.g., McKinnon & Ahola-Sidaway, 1995; Hodkinson, 1998; Cronin, Foster, & Lister, 1999; Siann & Callaghan, 2001; Thiessen, 2001; Andres, 2002; Ciccocioppo, *et al.* 2002; Alberta Government, 2006; Lehmann & Taylor, 2003; Statistics Canada, 2004b) expose the powerful influences of primary school years for establishing people's career and education directions.

Stereotypes erode female independence (Bartky, 1990). Men are perceived to be strong, authoritative, and assertive; whereas, women are typically projected as kind, caring, nurturing, and passive (Cleveland, Stockdale, & Murphy, 2000). Some women

have integrated themselves into society's systems by taking up "man-like" characteristics to survive and even thrive in various workplaces. Women who have attained powerful positions are deemed unnatural and viewed with suspicion, especially by men. They have been referred to as "dowager empress," "powerful poisonous witches and murdering mother," and "iron butterfly" (Cleveland, Stockdale, & Murphy, p. 54) and there is an assumption that these women obtained their positions outside normal administrative channels. Bierema (2001) suggests that acculturation in this form perpetuates systemic discrimination and accepted distributions of power.

Gender is constructed and played out in society in a way that promotes discrimination, harassment, and other subtle (and not so subtle) forms of unfair practices. A patriarchal system has a tendency to elevate certain power dynamics because of gender biases. Nicolson (1996) suggests that there are rules directing how women and men interact within organizational fields. In these locations, some people have more social power than other individuals. Here, ideas about gender shape what society considers to be appropriate work tasks for women and men; the physical and social challenges of the work (McKinnon & Ahola-Sidaway, 1995); the perceived value of women's work in contrast to men's work; and the promotion of gender constructions by employees and employers (Padavic & Reskin, 2002). Tensions in workplaces are often aggravated because people have preconceived notions about a person's identifiable gender. Women's paid work choices cannot be separated from their childcare and housework responsibilities (D. Smith, 1999). Normative expectations categorized according to a certain gender are customarily unarticulated and acted out without examination. Upon inspection of the conditions that bring about and maintain the presence of horizontal and

vertical occupational niching within the organizational system, it becomes apparent that traditional gender biases continue to inform present occupational and organizational cultures.

In the following section, I examine literature about women working in skilled trade occupations. I also introduce academic literature about occupational and organizational cultures.

Women working in skilled trade occupations. Women working and learning in the skilled trades is not a new topic; however, it is an area, especially the industrial trades, that has received limited attention in Canadian academe. To provide a more in-depth examination of women working in skilled trade occupations, I review scholarly literature addressing a variety of occupations, not only in the industrial field, but also construction, technology, and operations. I incorporate literature from researchers, organizations, and government agencies from Canada, Australia, UK, and US. Throughout these writings, authors continue to problematize gender and, indirectly, class. These writers challenge inequities women face during the recruitment, hiring, training, promotion, and retention processes for non-traditional occupations.

Notable exceptions to the lack of scholarly research about Canadian skilled trade women are the unpublished master's theses of Glasgow (1982), Graul-Follis (1992), and Bron (2001). Glasgow's early 1980s study is a comparison of Alberta women working in traditional (e.g., medical and X-ray laboratory technology, secretarial, and hair-styling) and non-traditional (e.g., carpentry, electrical, welding, and mechanics) occupations. Her primary purpose is to determine whether factors such as backgrounds, personalities, sex

roles, and work values can predict women's occupational choices. Glasgow's study includes women who are in training rather than women actively engaged in paid work. Likewise, Graul-Follis conducts a descriptive study in the late 1980s that explores barriers encountered by Alberta women in their attempts to gain employment and related apprenticeships in non-traditional occupations. Although the women in Graul-Follis' study are of the opinion that non-traditional work can advance women's economic position, they articulate numerous barriers (e.g., sex stereotypes, tokenism, and disempowerment) that either prevent women from entering the trades or influence their decisions to discontinue trade work.

Similar to the previous studies, Bron's (2001) study investigates the experiences of women living in Alberta. However, Bron limits her participant set to residents of a northern Alberta resource-based community. Framed within a feminist perspective, Bron's primary goal is to provide recommendations to advance women's participation in occupations that are typically found in these locations (e.g., trades, technology, and operations). Furthering Graul-Follis' (1992) conclusions, Bron suggests mechanisms that can be put in place to reduce barriers to these careers – strategies to address women's needs regarding childcare, training for women to give them experience in required skills, and development of community support agencies to aid women's integration into these resource-based careers.

In contrast to Glasgow's (1982) and Graul-Follis' (1992) attention to demographical information and corresponding documentation of barriers and, of course, suggestions to reduce these barriers, Bron (2001) broadens her scope to examine, in depth, the prevailing workplace culture, labour markets in a northern resource-based

locality, gendered locations, and community. With this emphasis on community, and because of its unique location, Bron is able to identify more readily community actions (noted above) that might advance women's participation in trades, technology, and operations. The underlying difference between Glasgow's and Graul-Follis' studies and Bron's research is that the former rely heavily on the individual characteristics of skilled trade women; whereas, Bron's focus is on how the community affects women's work participation and career choices and, as a consequence, recommend strategies that could be put in place by the community to support women's work in non-traditional careers.

Although these studies are more descriptive and exploratory in nature, their contribution is valuable in that they provide a foundation from which to conduct my research. For example, Graul-Follis (1992) presents a detailed historical description of Alberta's apprenticeship system and recommendations for employers, employees, and secondary educators to promote trades as a possible career to women. Glasgow (1982) concludes that complex factors influence women's career choices, but there is not one dominant pattern that prevents women from entering the trades. Bron (2001) offers a broader analysis of gender, work, and place.

Other literature about women in trades and technology can be organized into three categories: anecdotal, prescriptive, and analytical. Anecdotal literature is most likely to be found in the form of stories told by women working in non-traditional occupations (e.g., Lindenstein Walshok, 1981; Ontario Women's Directorate, 1985; Schroedel, 1985; Martin, 1988; Braid, 1990; Kootenay Women in Trades & Technology, 1990; Michelson, 1994; Finlayson, 1995; Eisenberg, 1998). Similar to the participants' viewpoints documented in Glasgow's (1982) and Graul-Follis' (1992) studies, these narratives are

often individualistic and extremely personal. Notwithstanding this claim, the value of these stories is the articulation of career development, learning experiences, barriers, and supports as lived by these women (Bascia & Young, 2001). These anecdotes, often indirectly, expose how these women responded to unfamiliar workplace and learning cultures, as well as their reactions to discriminations they encountered. Descriptions reveal prospective employers' beliefs and, once employed, subsequent relations with co-workers and management. These first-hand experiences, as documented by these skilled trade women through their stories, disclose their experiences of occupational and organizational cultures in the construction field.

Prescriptive literature describes how to implement bridging programs, promote strategies for success, or evaluations of pilot programs (e.g., Cherry, 1985; Bohnen, Booth, & Klie, 1991; Nichols Applied Management, 1991; Human Resources Committee, 1993; Women in Trades & Technology, 1993; Gedies, 1994; Scane, Staton, & Schneider, 1994; Ferguson, 1995; Braundy, 2002) and they predominantly espouse five common themes. These themes are as follows: improve recruitment techniques; offer hands-on workshops and work placements to introduce women to the trades; enhance the image of apprenticeship trades; provide multi-year budgets and funding for education programs; and encourage women and men to reassess their attitudes and behaviours about women working in male-dominated occupations. I expand these ideas in Chapter 7.

Analytical research published by sociologists, educational researchers, labour organizations, not-for-profit training organizations, and governments consider wide-ranging topics that inform my research. For example, Sugiman's (1992) unpublished doctoral thesis investigates the male-dominated unionized auto industry in Ontario. Using

a gender-sensitive strategy as the basis of her study, Sugiman draws attention to worker agency, social construction of gender, gendered politics and worker resistance, and workplace equity and justice.

An underlying theme that occurs throughout Sugiman's (1992) study is the politics of gender relations and class. Despite the increasing number of women workers in the auto industry, Sugiman contends that collective agreements and seniority systems maintain a masculine culture and an established division of labour. Within this framework of sexual inequality, women are seen as a different class of workers. Sugiman suggests that leaders of organized labour have not challenged the inequitable treatment of women. Not only do shop floor workers, who are typically men, perpetuate the division of labour between men and women, the unionists themselves have accepted these same customs.

Sugiman (1992) highlights a strong connection between workers and the influence of the societal environment in which they find themselves. These situations provide people with the impetus to form locations of resistance whereby workers seek to change the workplace by opposing the dictates of their employers in order to advance their self-worth and self-respect. She determines that class as well as gender affects how women and men form cohesive work groups and solidarity in unionized workplaces.

Another study that is a valuable source of information for my research was initiated by the Women in Resource Development Committee (WRDC), a not-for-profit skill training organization in Newfoundland and Labrador, and compiled by Boland (2005). The primary purpose of this study is to examine Newfoundland and Labrador women's training experiences in trades and technology, hiring and retention practices,

and issues related to women working in these occupations from the viewpoints of people involved in these initiatives.

Other research in this analytical category typically incorporates data from Statistics Canada to assess women's and, in part, men's career trends and income levels juxtaposed with economic, employment, and equity policies (e.g., Department of Labour of Canada, 1965; Livingstone & Mangan, 1996; Gunderson, 1998; Beaudry & Lemieux, 2000; Davies, McMullin, Avison, & Cassidy, 2001; Drolet, 2001; Fortin & Huberman, 2002; Krahn & Lowe, 2002; Dunk, 2003; Statistics Canada, 2003a; Townson, 2003; Watt-Malcolm & Young, 2003; Boland, 2005). Krahn and Lowe conducted an in-depth analysis of Canadian society and work. Drawing on Statistics Canada data, these researchers investigate the findings of studies, current theoretical views, and developments in employment, and then engage in extensive discussions on topics such as labour inequalities, industrial relations, workplace tensions, and women's participation in the paid workforce.

According to Krahn and Lowe (2002), the advent of unionization in Canada contributed to women's lack of paid work involvement. A predominant concern for the labour movement was to ensure that men earned enough money to support their families. Unions were successful in their negotiations. They were able to ensure that men were paid well and that women would not be used as a source of cheap labour. Further, the family ideology – domestic work is women's work and paid work is men's work – was maintained. However, the division of labour is highly dependent on the community and the local industry. Parr (1990), in her study of two Ontario towns between 1880 and 1950, notes that the blending of industrial patterns and community dynamics are strong

determiners in how gender roles are defined. One town in Parr's research was dependent on knitted-goods manufacturing, thus women were the primary breadwinners. Whereas, the other town's economic source was a large furniture factory and the paid workers were mainly men. Parr demonstrates that gendered attitudes and assigned gender roles are strongly influenced by the local community and its industrial base.

Livingstone and Mangan (1996) as well as Dunk (2003) use data from Statistics Canada to support their findings. In contrast to Krahn and Lowe's (2002) work, these authors incorporate statistics with findings from explicitly designed studies – Livingstone and Mangan's publication elaborates the "Steelworker Families Project and the Hamilton Families Project" (p. vii) and Dunk's research examines working class white youth in northern Ontario. This literature informs my research in numerous ways. The contributors to Livingstone and Mangan's edited book present a materialist analysis of select working class steel workers' and their spouses' experiences in a steel-based industrial setting in Ontario. These authors examine class and gender relationships from the viewpoints of these families. Further, contributing authors develop a broader notion of class consciousness and highlight historical and other mediating elements and their relationships to the divisions associated with gender and ethnicity.

Similarly, Dunk's (2003) study explores class consciousness among select white male workers in northwestern Ontario. The workers Dunk interviewed are aware of their locations in the social and production framework and are expressive in their resistance to these inferior positions. Yet, as Dunk purports, these workers are mediated by their hegemonic cultural circumstances – work, play, ethnicity, and gender. These workers create meaning within a space that is context-specific, and within this space, "work is an

overwhelming aspect of the context within which working-class individuals live" (Dunk, p. 153). In addition to these insights, Livingstone and Mangan's (1996) and Dunk's research sites are in construction-based locations and these authors question the influences of work organization and type of work in people's everyday lives.

In distinct ways, these analytical publications are of particular interest to me because they expose historical and current gender occupation and education segregation, both vertically and horizontally, in Canadian education settings and workplaces. Throughout this literature, there is evidence of occupational gender segregation. Krahn and Lowe (2002) propose that femininity and masculinity and the social values attached to these social categories are used to establish job prerequisites. Unfortunately, employers are swayed by these social classifications and their inherent preconceptions when they recruit and hire their employees. Although, as noted previously, these criteria are disregarded when women are needed in the paid workforce to fulfill employers' labour requirements (e.g., World Wars).

Another important factor to consider when examining non-traditional occupations is workplace culture. I introduce the concept here and, then, in Chapter 6, draw on select literature in combination with the research participants' articulation of their experiences and my personal experiences to investigate in detail aspects of the industrial culture(s) that influence women's participation, or lack thereof, in skilled trade work. First, however, it is necessary to explain the term "workplace culture" in this research. Workplace culture is "a complex combination of both occupational culture (the ideologies and norms emerging from the job workers do) and organizational culture (the

ideologies and norms emerging from the organization *where* workers do that job)" (Dellinger, 2002, p. 4, *italics in original*). McDowell (2003) states:

> [W]ork in a range of different settings and locales, in the home or the factory, waged, unwaged, formal and informal, plays a central role in shaping people's place in the world and in informing their identities. But so too do people's everyday lives – their routines, desires and aspirations as gendered social beings affect their commitment to work and their sense of self as labourers. (p. 19)

A community, a particular subset of society, is a collective of people or stakeholders who are brought together because of circumstances and their common goals and aspirations. Each community generates cultural practices that individuals use to gauge and monitor their beliefs, customs, and behaviours. For the most part, people's actions and attitudes emerging from these dynamic constructions are negotiated and re-negotiated. These constructions are particularly evident when these factors are examined from an historical perspective (see Chapter 4).

Practices that contribute to occupational and organizational cultures materialize as perceptible actions, attitudes, and behaviours and accentuate what constitutes work and what is a worker (Kincheloe, 1999), essentially, the habitus (see page 74). Individuals' actions, attitudes, and behaviours are validated through the "everyday lived experiences" (Kincheloe, p. 21) of people's lives. How people negotiate workplace cultures are customarily unspoken, often taken for granted, and can be traced to broader societal traditions and people's expectations as articulated previously by McDowell (2003).

Conclusion

Socioeconomic situations tend to place women in the private realm and men in the public arena. However, gender relations – the communication between the feminine and the masculine – continue to be negotiated and re-negotiated. An examination of the historical progression of policy development and implementation exposes how Canadian society and governments responded to changes in political, economic, social, and cultural contexts. In some instances, policies demonstrate governments' and society's perceptions about women's participation in the paid workforce. This observation highlights patterns of resistance. Specifically, men have resisted women working in, first, paid work, and second, in the skilled trades. White heterosexual men as workers embody industrial workplaces. Women and other non-traditional workers are not always welcome in these workplaces; in fact, they are often required to work in hostile environments. Recognition of this pattern presents opportunities to confront underlying structural conditions and their embedded ruling relations (D. Smith, 1999). Fortunately, internal and external factors force governments, industry, and society to reassess what is considered normal (Brooks & Miljan, 2003). It is at this juncture that the social intersects with the political and the economic. This space allows for conscious choices that can improve women's options for work and learning in the skilled trades.

In the next chapter, Conceptual Orientation and Research Design, I detail my theoretical perspective, data analysis approach, and research limitations.

CHAPTER THREE

CONCEPTUAL ORIENTATION AND RESEARCH DESIGN

In this chapter, I first outline the design of this study: Research method, participant selection and recruitment, ethics, trustworthiness and authenticity, data analysis and interpretation, and research limitations. I then introduce my research approach and present the foundational concepts of my conceptual orientation that I use to explore and analyze the research data. I include theoretical limitations of my analysis throughout these sections and conclude with a summary of this chapter.

Design of study

During the process of gathering data for this research, it became clear to me the importance of selecting methods that "fit the problem at hand and must constantly be reflected upon *in actu*" (Bourdieu & Wacquant, 1992, p. 30, *italics in original*). With this awareness, I understand that the objects of this study (e.g., social structures and related stakeholder practices, interrelationships between social structures and classification systems) and their constructions cannot be looked at separately from the instruments that construct the object and the subsequent critique.

Throughout this research design, I have drawn on my work and education background and used this knowledge and experience as empirical data. Bourdieu's reflexivity theory, which is elaborated in more detail below (see p. 83), makes me aware that a researcher's perspective cannot be neutral (Postone, LiPuma, & Calhoun, 1993). There are some authors (e.g., Mertens, 1998; Mehra, 2001) who define my role as

researcher as a data collection instrument. This categorization is premised on the notion that the researcher is the primary director of the research – from the formation of the research question to the final analysis. I agree. It is undeniable that my research analysis is guided by my personal history – in this sense, I am an instrument as well as an object in this inquiry.

From this interpretive position, I detail my research method below. In these sections, I outline the selection and recruitment process for participants, the means by which I conducted this research in an ethical manner, and how I promoted trustworthiness and authenticity. I also describe my data interpretation and analytical approach and document research limitations.

Research method. The overarching research methodology for this study is naturalistic inquiry. Bourdieu and select historical materialist theorists (e.g., D. Smith) provide the basis for my conceptual framework, which I take up below in the "Research approach" section. The research methods used to gather data for this study are: a) analysis of the narratives documented in the interview manuscripts, and b) document analysis of social and VET policy documents. Creswell (2007) notes that an analysis of narratives is a "description of themes that hold across the stories" (p. 54) and provides an opportunity to explore how people are socially situated and how social resources may or may not restrain or inhibit their actions and behaviours. I investigate interview data through an analysis of documents, particularly, policy documents, which, in this research context, allows for the juxtaposition of people's articulated localized experiences within defined policy frameworks. Documents to be examined, according to Hoepfl (1997), are

official records, newspaper articles, reports, and publications. Hence, I include data from pertinent government documents, academic literature, institutional websites, and printed organizational materials as well as from my field notes (see p. 52 for a description of how field notes are used as data for this research) to supplement the interviews and to elaborate the research themes.

Participant interviews were conducted in a conversational style with a semi-structured format (Burns, 2000). The advantages of drawing on this style of interviewing are: a) more flexibility than a structured interview, b) the schedule provides a focus for the interview, but does not necessarily limit it, and c) there is an expectation that the interviewee will respond more fully from her/his own standpoint. I conducted 26 face-to-face and/or telephone audio-taped interviews with 14 participants. Fourteen interviewees participated in the first round of interviews. However, only 12 interviewees were available for the second set of interviews because one declined the offer to participate in a second interview and another participant was not available for an interview due to a career change. The interviews were 10 minutes to 2 hours and 20 minutes in length with an average time of one hour and 15 minutes for the first set of interviews and 20 minutes for the second set. For clarification, the 10 minute interview was a second conversation with one of the participants who had a couple of comments to add to the data set.

The interviews with selected participants were semi-structured and interview guides were used to initiate conversations. Questions for the first interview are documented in the Interview Schedule (see Appendix A). I encouraged the participants to identify and speak to issues that concerned them. Upon completing the first interview, I transcribed the taped meeting and ensured that the interviewee had ample time to review

the transcript prior to the second interview. The participants were asked to review and approve these documents. Corrections were minimal (e.g., remove repeated words and slang such as "like," "uh," and "mmm"), with the exception of one participant who asked me to remove one paragraph, which I did. These corrections were incorporated into the final version of the transcripts. During the second interview, an interview letter to re-introduce myself and the study was constructed for consistency (see Appendix G). I specifically referenced the original conversation with a query: Were there any points of concerns or issues the participant wanted to discuss? According to Reinharz (1992), the use of multiple interviews (more than one with the same individual) has the potential to be more accurate in that there is an opportunity for the participant to reflect, correct, and contribute additional information after reading the transcript from the first interview. The second interviews allowed me an opportunity to explore pertinent themes that became apparent in greater detail during the analysis of the first interview data. These data were transcribed by a professional transcriber who signed a Confidentiality Agreement (see Appendix F) and, similar to the first interview transcriptions, were returned to the interviewees for approval. Upon reading the interview transcript, any revisions or corrections communicated by the interviewees were then included in the final copy.

Although interviewing has merit as a research method, I also understand there are limitations to this data collection technique. Pring (2004) contends that interview data are seen as interesting to only a small group of people and the researcher is given license to interpret the data, which has the potential to shift the beliefs and ideas of the interviewee. To overcome these limitations, the researcher and the researched need to negotiate the meanings of the data. It is important, therefore, for the researcher who uses interviews as

a data resource to acknowledge her/his assumptions and biases that may affect interpretation of the meanings intended by the interviewee. I elaborate my responses to this concern below.

Pring's (2004) view of interviewing as a research method is premised on traditional conventions. To counteract these shortcomings, my choice of research method is reinforced by DeVault and McCoy's (2002) assertion that, in contrast to traditional views, researchers can use interviewees' explanations, not as information about the particular experiences described, but instead use this information as a way to expose relations that influence local experiences. The theoretical construct used by these authors in their presentation of incorporating interviews as a means to examine the "ruling relations" is premised on D. Smith's (1999, p. 73) research.

D. Smith's (1999) sociological approach informs my research in that I use multiple interviews to study the connections in people's everyday activities, which extend to and subsequently affect the macro organization of the field. A method of inquiry for women, Smith argues, should start with women's experiences in their everyday lives. Rather than objectifying individuals, it is crucial to "investigate how society organizes and shapes the everyday world of experience. Its project is to explicate the actual social relations in which people's lives are embedded and to make these visible to them/ourselves" (p. 74). Smith asserts that theory and practice meet because "theory is itself a practice" (p. 75). Within this framework, interview data are "not to generalize about the group of people interviewed, but to find and describe social processes that have generalizing effects" (DeVault & McCoy, 2002, p. 753).

Throughout the interviews, I endeavoured to actively listen to the participants' comments and responses. During the conversations with the participants, I asked questions to make sure that I understood what they were telling me, which helps to reduce researcher biases and misinterpretations. Throughout the interviews, I invited the participants to clarify their meanings, which allowed me and my participants to negotiate meanings. In this act of active listening, I was able to identify pertinent nuances and further query the participants' ideas and thoughts (Ruane, 2005). The second interview was a check on bias and promoted collaboration between me and the participants (Lather, 1991). Since the participants are key data contributors in this research, as discussed in the following section, it was crucial to identify, locate, and recruit a diverse set of participants who were willing to share their experiences and viewpoints.

Participant selection and recruitment. Bourdieu suggests that a chart be used to identify the presence or, conversely, absences of properties, whether institutions or the more local level of a social unit (Bourdieu & Wacquant, 1992). I appropriated this organizing tool used by Bourdieu to construct a participant profile chart (see Table 2 below). This instrument encouraged me to think relationally about pertinent participant characteristics. Properties important for participant selection were sex, skilled trade and apprenticeship status, field experience, position in the field (e.g., employee, employer, trainer, educator, and government representative), location in the field (eastern, western, northern Canada), and union affiliation if any.

Table 2. Participant Profiles

Participant Profiles							
Sex Female (F) Male (M)	Trade Journey or Apprentice status	Field Experience	Employee	Employer	Educator or Trainer	Government	Current Trade Union Affiliation (yes/no/both)
F	Welding apprentice	No	No	No	No	No	No
M	Steamfitter-pipefitter journeyperson	Yes	Yes	Yes	No	No	No
M	No trade	Yes	Yes	Yes	No	No	No
M	Ironworker journeyperson	Yes	Yes		Yes	No	Yes
F	No trade	No	No	No	Yes	Yes	No
F	No trade	No	No	No	Yes	Yes	No
F	Electronics journeyperson	Yes	No	Yes	Yes	No	No
F	No trade	Yes	No	Yes	Yes	No	No
F	Boilermaker journeyperson	Yes	Yes	No	Yes	No	Yes
M	Boilermaker journeyperson	Yes	Yes	Yes	Yes	No	Yes
F	Insulator apprentice	Yes	Yes	Yes	No	No	No
M	No trade	Yes	Yes	Yes	No	No	No
M	Gasfitter-plumber journeyperson	Yes	Yes	No	Yes	No	No
F	Instrumentation journeyperson	Yes	Yes	No	No	No	Yes

My original working chart identified the interview numbers and locations; however, to help ensure participants' anonymity, I have removed this information from the chart presented in this document. My reasoning for this omission is that the industrial field is built on a network of relationships and it is quite easy to identify people by their sex in conjunction with their employment status, skilled trade, and location.

As noted in Table 2 above, the participants are educators/trainers, employers, government representatives, employees (journeypersons and apprentices) from western Canada (N=10) as well as representation from northern (N=2) and eastern (N=2) Canada. Due to the transient nature of the field, participants have typically worked in one or more

of these arbitrary location divisions, but I have identified the participants' locations according to their current work. All participants are associated with the Canadian industrial sector, which includes, but is not limited to, the petroleum, petrochemical, pulp and paper, and chemical industries. More than 60 percent of the participants had one or more trade tickets. In the chart above, I have listed only the trade ticket that is aligned to their current work roles. Women represent greater than 50 percent of the total interviews. Over 50 percent of the research participants started working in the industrial field in the late 1960s and 1970s while the remainder entered into this sector in the 1980s through to the 2000s. Work experiences consist of working with union and non-union contractors on industrial and commercial jobsites as well as education and training institutions that offer government-recognized trade apprenticeships as well as pre-apprenticeship skill training for women.

One set of selected participants were apprentices and/or tradespersons who have enrolled in or completed an apprenticeship program in the industrial trades (see Chapter 5 for a discussion of apprenticeship). They have worked in Canada's oil and gas, pulp and paper, or chemical industries. Similarly, the second participant set is employers who are involved in Canada's industrial sector and the third set are trainers and educators working with industrial pre-apprenticeship and government-recognized apprenticeship programs. The fourth participant set is those individuals who have affiliations with provincial or territorial governments. From each of these participant sets, I interviewed two or more people with a particular emphasis on individuals working in areas that have strong connections to the industrial field (workers, employers, educators, and government personnel). The number of interviews was also determined by the notion that, for the

most part, the educators and employers are qualified tradespersons. These individuals have completed one, if not two or more, apprenticeship programs and have worked in industry for a significant period of time.

To determine who I should ask to participate in this research, I looked for people who have a range and depth of experiences. I sought contrasts as well as similarities. For example, 11 of the 14 participants have strong industrial field experiences. The exceptions are: One person is starting a welding apprenticeship and two other individuals are involved in the training and political aspects of women working as skilled trades persons. As previously stated, some of my participants have worked within some or all of the policy contexts of the 1970s, 1980s, 1990s, and 2000s. They have been employed by union and/or non-union contractors. As well, some participants have worked outside the industrial field. This information adds to the contrasts and similarities in the data.

I found my study participants through my contacts and furthered by using a snowball technique. If I was unable to locate a sufficient number of participants, I was going to submit a request to apprenticeship branches and similar agencies in other provinces and territories to help me locate potential candidates (see Appendix B). However, I did not use this memo; rather, I sent a similar memo to select participants with the request to contact me if they wanted to participate (see Appendix C). Mostly, because of my work, education, and volunteer experience, I was able to contact people willing to participate in this research. I have met these people because I am a journeyed person (insulator trade mid-1980s) and an engineering design technologist (early 1990s). I have worked on industrial worksites throughout western Canada as a skilled trade person, site superintendent, branch/project manager, and estimator as well as an instructor

in a technical college and a similar position teaching a pre-apprenticeship skilled trade program for women. My relationships with these participants are professional and not in any way harmful or coercive. I did not use inducements or promises in my interactions with any participants.

Ethics. My study involves human participants; therefore, I submitted an ethics proposal to the Faculties of Education and Extension Research Ethics Board (EE REB), University of Alberta. Ethics approval was granted. When I gathered my interview data, I explained to the participants the purpose and research method. They were invited to take part in this study and the research consent form (see Appendix D) was used to obtain written permission from all participants involved. This consent form and the letter (see Appendix E) also outlined the participants' right to withdraw from the study at any time without penalty. As well, the letter clearly described the purpose of the research and the parameters of the participants' involvement. Any audio tapes, interview notes, field notes, videotapes, checklists, and/or surveys would be destroyed and not be used in the research if a participant decided to terminate participation in the research. I did not receive any requests for withdrawal from this research project.

With regard to anonymity and confidentiality issues, I clearly explained to the participants that their names, their employers' names, and their employment locations will be kept confidential and anonymous. I explicitly outlined my intentions to my participants and ensured that data resulting from this research not include any identifying factors that would divulge the individuals described. The interview data obtained from

this study are kept in a locked storage cabinet and aggregate resides on my computer hard drive, which is located in a secure office.

Trustworthiness and authenticity. My research design included multiple interviews with different people at different times (data triangulation) in addition to personal experiences. I also analyzed a variety of social and VET policy documents (methods triangulation). Patton (2002) argues that a careful review of documents combined with research participants' personal experiences provides the researcher the means to "use different data sources to validate and crosscheck findings" (p. 306). Burns (2000) suggests that the trustworthiness of research is improved through data and method triangulations. However, J. Smith (1984) disputes this idea because he contends that triangulating data is inherently incompatible with qualitative research. Nonetheless, most qualitative researchers seek to generate "research that is plausible, credible, trustworthy, and therefore defensible" (Johnson & Christensen, 2004, p. 249) and often use the term "validity" to reflect this position. Conversely, Smith (1984) argues that:

> In the interpretation of a text, for example, individual sentences can only be understood in relation to the whole text, and the whole text can be understood only in relation to the individual expressions....The problem is that what makes sense depends on how one reads the situation – not only the general situation of interpretive inquiry, but the specific situation of any particular inquiry; not only in terms of the actual interpretation, but also in terms of how the interpretation was obtained. (p. 387)

Consideration of J. Smith's (1984) position suggests that it is difficult to produce qualitative research that is trustworthy or even defensible. In contrast, Olesen (2000) is of the opinion that feminist researchers will find alternatives in their research methods to maintain credibility through audit trails and member checks. Richardson (1993) contends that social science research is not free of emotions or values and different practices need to make room for tensions, differences, and self-reflexivity.

I maintained research rigor by being careful, cautious, and critical of the research methods used, my interpretations, and the theory I used to guide this research (Schostak, 2002). Furthermore, my study's trustworthiness is supported by means of the interviews and authenticity exists because of my conscientious documentation of participants' values, beliefs, and viewpoints (Mertens, 1998).

With regard to the transferability of this research to other situations, I made a concentrated effort to communicate my findings complete with descriptions of the pertinent contexts and cultures (Mertens, 1998). The dependability aspect of this study is addressed through the reporting of all changes that occur throughout the research process, for example, through my field notes; whereas, the chain of evidence provides confirmability through my research data. My field notes are descriptions of my observations about, not only the industrial work and education experiences of my participants and me, but also my ideas and impressions of happenings within a particular context. These field notes gave me the details to provide rich descriptions, which are documented in the following chapters.

To strengthen the usefulness of my inquiry, I endeavoured to ensure that my documentation of the findings incorporated my reflections on theory and researcher role (Munro, Holly, Rainbird, & Leisten, 2004). Evans (2002) maintains that:

> 'telling it as it is'…involves a particular form of reflective research practice incorporating mechanisms to reduce as far as possible the effects of partisanship and the more general influence of researcher values. The analytical researcher does not ignore the effects of her/his values or dismiss their influence as unavoidable. Rather, s/he confronts them, acknowledges them and attempts to deal with them head-on by incorporating recognition of them into the research process and dissemination. (p. 138)

Within this frame of reference, I am committed to reducing researcher effects. One aid to reduce these effects was my field notes where I documented descriptions as opposed to interpretations (Drew, Hardman, & Hart, 1996) and recorded my impressions and reflections (Burns, 2000).

Data analysis and interpretation. My epistemological position is founded on the idea that there is an interactive relationship between the research participant and me, but my relationship is not one of an outsider/insider. I have an intimate knowledge of the workings of the industrial field because of previous industrial work experiences, thus my position in this research is doubly layered. First, with preconceptions and assumptions acquired while I was in the field, in contrast if any, to the way it is now and, second, with the knowledge I have gained through my academic and scholarly endeavours. My knowledge is situated within a certain timeframe that has its own political, historical, and

social connotations (Skeggs, 1997). Throughout my data analysis, I know I must remain vigilant to resist the tendency to layer my experiences over those of the research participants and interpret the data from this perspective. Nonetheless, my experiences helped me to ask informed questions and understand more so the nuances woven through the participants' retelling of their experiences. From my academic position, I was careful in the interviews not to position myself as the knowing one.

A key element in this position is situated knowledge (Haraway, 1988; Mertens, 1998; D. Smith, 1999). Mertens contends that objectivity in this orientation is realized by identifying the beliefs, values, social locations, and political views of the researcher in conjunction with the research problem(s) and pertinent research data. This stance corresponds with Bourdieu's reflexivity notion (Bourdieu & Wacquant, 1992). Bourdieu is averse to a researcher setting oneself up as observer in the game where one is an active participant. However, by integrating a reflexive mode into the research analysis, the researcher is encouraged to discuss his/her presuppositions that are associated to the local context. The social, economic, political, and historical shape what we know and how we know it. Smith argues that a person can start with lived experiences and then orient these lived experiences in a material context. The notion, from Smith's perspective, that I can situate my work and learning experiences within a material context informs my study.

My personal work and education experiences give me a deep understanding about the nuances of industrial work and learning culture. This knowledge was valuable during the interview process because I was able to delve into the undercurrents, if they existed, of the participants' comments as they articulated their point of views (Reinharz, 1992). As well, my understanding of this field helped me perform my research analysis.

I acknowledged my personal experiences by engaging in serious contemplation and documentation prior to talking with the participants. These writings were the beginning of my field notes and I continued to record descriptions and impressions throughout the research. The motive for these actions was to reduce the human tendency to use other voices to tell my own story (Mertens, 1998). This is not to suggest that it is possible to ignore my experiences. Mehra (2001) maintains, when conducting naturalistic research, the researcher's perspective is a crucial aspect of the research setting, a perspective that includes all one's subjectivities, biases, and beliefs. It is in the acknowledgment and communication of these biases and subjectivities that my personal experiences are an asset for this inquiry. I am careful and refuse to confine my interpretations and analyses to my own frame of reference. Evans (2002) suggests that the researcher must consider the different viewpoints, the variety of accounts, and understandings during the research processes such as data gathering, data analysis, and documentation of findings.

Background information for my research analysis is the numerous observations from two exploratory field studies I conducted in addition to a study of related literature. I found a variety of instances that warranted further investigation. The themes that came forward in these preliminary studies were: a) hegemonic discourses in workplaces and education settings reinforce accepted cultural norms for groups of people; b) occupational roles and what is viewed as non-traditional occupations, and corresponding career choices are dictated by societal constructs; c) preconceptions of what work is and how education fits into a patriarchal model are often unarticulated by the workers and those people closely related to the situations; d) construction and reproduction of gender

identities use work and education ideals as a framework to limit/restrict entry of non-traditional people into these work spaces; and e) people can act as change agents to shift how work and education are perceived, and, in part, use policy as a tool to move these contexts to be more equitable for people.

Throughout the interpretation and analysis of the research data as documented in the following chapters, it is my hope that the participants' voices are clearly heard. It is also my intent that the theorization of these data meets academic criteria while honouring the meanings and experiences as expressed by these people who are embodied in the practice of the industrial field – people such as me who have lived the life, walked the walk, and talked the talk. I am theorizing in a *gendered* space in a particular field within the confines of past and present economic, social, and political happenings. I also theorize within a framework of a specific space embroiled in a culture and its organization, a gendered space where actions and attitudes are played out according to the rules, norms, and everyday practices of industrial workplaces. Moreover, I am theorizing within a *classed* space that, for the most part, would be identified by most people as *working class*. Many people view working class as those individuals who are in economically impoverished situations. However, there are inconsistencies if this is the only defining characteristic for working class. In the industrial field, folk are well paid for the most part, yet these individuals are located within the working class category.

According to Bourdieu (2001), the working class category is the result of how the middle class consolidated their identity. The middle class established symbols of distinction or symbolic capital that are derived from the economic (money and property), social (relationships, networks, and group memberships), and cultural (language and

education) aspects of people's lives. Skeggs (1997) argues that the concept of class cannot be disregarded because it is a "major feature of subjectivity, a historical specificity and part of a struggle over access to resources and ways of being" (p. 7). In the following chapters, I highlight how women's ways of being and their subjectivity is played out in a gendered and classed industrial field.

Throughout the data analysis, I am relying on my research methods and the theory I have selected to structure and guide me. Similar to Bourdieu, I hope to find the practice in the theory and the theory in the practice – essentially, I seek to recapture the "practical side of theory as a knowledge-producing activity" (Bourdieu & Wacquant, 1992, p. 30). In the act of conducting research, through the process of gathering and analyzing data and documenting my findings, I have uncovered a few limitations. I describe these limitations in the following section.

Research limitations. Similar to most research projects, there is a tendency for researchers to be limited by time, space, and resources, not to mention inherent researcher biases and assumptions. This project is no different. In addition to these limitations, I also acknowledge that a sample of 14 research participants with a total of 26 interviews allows for a brief glimpse into what lies beneath the surface. Of particular concern is the number of apprentices who participated in this study. To be clear, this research project is not designed to track apprentices and their specific experiences. Rather the intent of this study is to examine more closely the tensions between the policy ideal of promoting trades typically associated with Canada's industrial sector as a viable career to Canadian women and policy outcomes.

Within this frame of reference, I am looking to better understand the locations of resistance to the implementation of pertinent policies, programs, and funding initiatives despite the past and present demand for skilled labour within the trades that are commonly connected with industrial work in Canada. To achieve this goal, it was necessary to limit the number of interviews with newcomers and speak instead to those individuals with a deep understanding of the industrial field. Hence, I restricted the newcomer interviews and drew on those individuals with extensive industrial knowledge and experiences. A future study is called for to build on the information gathered in this research by speaking with newcomers to the industrial field. In particular, a study that adds to the data collected here about the structural, political, economic, and societal constraints within a policy framework documented in the subsequent chapters would be useful.

In this research, as noted above, I investigate the experiences of select employees, employers, educators and trainers, and government representatives. I examine the localized contexts with consideration for the macro social, economic, and political aspects of the industrial field. Nonetheless, the small number of people in each participant set I interviewed causes one to ponder the transferability of this research. I suggest the research findings have some transferability to similar situations. However, the degree of transfer is unknown and wholly dependent upon how the reader takes up the information and then applies it to his/her specific circumstances (Hoepfl, 1997).

Lastly, I would like to address a limitation that comes with being a novice researcher. The learning undertaken to formulate the research project to the selection of the conceptual orientation and research approach to the conclusion was and continues to

be an intriguing challenge. I am constantly searching for information about theory through to the practical application about how to weave theory, methods, and data analysis. This research project is without a doubt one of my most memorable experiences.

In the following section, I present my research approach and elaborate the key ideas of my conceptual orientation. I also highlight theoretical limitations.

Research approach

After an intensive study of various theoretical concepts and much deliberation, the conceptual orientation I use to analyze this research is founded on Pierre Bourdieu's theoretical approach. Succinctly, for me, Bourdieu's theory is a theory of practice that is not just a retelling of lived experiences; rather, his approach to research encourages awareness of misrecognition (concealed discriminations) in peoples' lived experiences. Reconstruction of lived experiences not only dwells on discursive exchanges, but also on actions embedded in everyday practices (Calhoun, 1993). In addition to joining theory and practice in a research project, Bourdieu emphasizes the interconnectedness of theory and methodology to the practice of research:

> The constant attention to the details of the research procedure, whose properly social dimension (how to locate reliable and insightful informants, how to present yourself to them, how to describe the aims of your research and, more generally, how to "enter" the world under study, etc.) is not the least important, should have the effect of putting you on notice against the fetishism of concepts, and of "theory," born of the propensity to consider "theoretical" instruments—habitus,

> field, capital, etc.—in themselves and for themselves, rather than to put them in motion and to make them *work*. (Bourdieu & Wacquant, 1992, p. 228, *italics in original*)

The methods for this research, described above, in combination with the theoretical instruments of field, habitus, and capital offer me a framework to conduct and present my research analysis. My conceptual orientation is situated in critical theory – a position that aligns with Bourdieu's theoretical view (Calhoun, 1993). Bourdieu's work takes into consideration the critical theory associated with the Frankfurt School as well as Marx's philosophical approach. However, according to Calhoun, Bourdieu's theoretical position is a critical theory that is a "project of social theory that undertakes simultaneously critique of received categories, critique of theoretical practice, and critical substantive analysis of social life in terms of the possible, not just the actual" (p. 63).

I further Bourdieu's theory by drawing on historical materialist feminist ideas located in the qualitative domain. To alleviate concerns as to how I have constructed my conceptual orientation, I draw attention to Bourdieu's aversion to locating his theoretical approach within the boundaries of one paradigm, which, from his point of view, limits researchers' options to engage in analyses that link theory and practice (Postone, LiPuma, & Calhoun, 1993). Hence, I critically examine data by means of Bourdieu's foundational concepts, field, habitus, and capital in combination with scholarly literature from a feminist viewpoint that encourages the disclosure of inequities of marginalized people (Howell, Carter, & Schied, 2002).

I also incorporate Bourdieu's conceptions of legitimacy, symbolic violence, and reflexivity. By means of these conceptual tools, including field, habitus, and capital

concepts, I analyze these data with a materialist perspective, not just economic relations, but symbolic violence. Lovell (2004) claims that "[f]or Bourdieu, there is a close relationship, though not one of dependency, between economic power and symbolic power" (p. 52). As will be demonstrated throughout this research, stakeholders have and continue to navigate and shape the industrial field because of the power associated with the economic as well as the symbolic. Thus, I supplement Bourdieu's social theory with writings from various academic scholars to further the analysis of my research, for example, Skeggs (1997), Gramsci (Forgacs, 2000), McDowell (1999, 2003), Connell (1995, 2000), and D. Smith (1993, 1999).

To reiterate, I am exploring the tensions between the policy ideal of promoting trades typically associated with Canada's industrial sector as a viable career for Canadian women and the actual policy outcomes. It is my intent to better understand the locations of resistance to the implementation of pertinent policies, programs, and funding initiatives despite the past and present demand for skilled labour within the trades that are commonly connected with industrial work in Canada.

I examine the views and opinions, and corresponding descriptions of experiences from 14 individuals (26 interviews), women and men, who are involved in the industrial field – tradespersons, apprentices, educators and trainers, employers, and government representatives. These data provide me an opportunity to juxtapose documented experiences with pertinent scholarly literature to critically examine Canada's industrial field, study workers' habitus, and investigate legitimate capital. I also explore how select skilled trade programs have worked with, around, or ignored policy initiatives designed to increase the recruitment and retention of women skilled trade workers (see Chapter 7).

Conceptual orientation

To engage in an academic exercise where I investigate a field that has and continues to be a large part of my life with all of its habitual intricacies and layers of capital, and of course, the opportunity to dig beneath the assumptions I have acquired is similar to embarking on a journey without a road map. In this, I trust that the theoretical tools I have chosen provide a supportive base and afford me the flexibility to explore concepts in meaningful ways.

My choice of theory is a conscious decision. With this conceptual orientation, disclosure of my situatedness is imperative in this research endeavor. Here, as noted in the introductory chapter, I am careful, perhaps overly so, not to impose my experiences onto those of my participants. I bear full responsibility for the theory and methods used in this research and understand that these choices have influenced the direction of this study.

The starting point for my conceptual orientation is Bourdieu's social theory, specifically, the theoretical instruments of field, habitus, and capital. Given the focus of this research, I augment this theory with historical materialist feminist underpinnings (Armstrong & Armstrong, 1990; D. Smith, 1999; Harding, 2004). These perspectives are compatible because Bourdieu's theoretical approach also advocates investigation of historical objective situations, patterns of resource distribution, and study of negotiations undertaken by agents as they work through their respective field(s) (Calhoun, 1993). Within this expanded framework, my attention is directed to locating and critically analyzing multiple intersections, overlaps, and chasms owing to social, economic, political, and historical locations and the influences of gender and class. Although ethnicities, age, and sexual orientations are not my primary focus in this study, these

conditions also influence people's life situations. Together, these elements play a significant role in the way people construct their everyday realities and work through their everyday activities. It is crucial to consider historical ideologies in light of actors' positions and how they perpetuate the organizing of social and political structures (Mertens, 1998).

Perhaps the most compelling aspect of Bourdieu's sociology, for me, is the articulated link between theory and practice. Another appealing feature of this theoretical perspective is that Bourdieu outlines ideas that not only pertain to how macro conditions of society operate, but also acknowledges the individuality of interactions among agents and actors. Embedded in this theory are conceptual tools to examine more fully the interrelationships of gender and class. This theoretical approach also offers a foundation from which to add and build on. Here, pertinent scholars' viewpoints can inform my research analysis. In this research, I join theory and practice, and hope to present recommendations and directions to advance women's work and learning possibilities and to initiate small changes at the individual, institutional, and political levels. I realize these goals are grand, but even if they provide a small improvement, aiming for the stars is worthwhile.

The following section provides details about my conceptual orientation including an investigation of field, habitus, capital, legitimacy, and symbolic violence. First, however, I highlight the contributions of scholarly writers to this conceptual framework. Bourdieu also supports researchers engaging in self-reflexivity and, in particular, their lived experiences and subsequent positions in relation to their research projects. Hence, I also describe what is meant by reflexivity and demonstrate this process as I detail my

conceptual orientation and, as will be shown, continue to model reflexivity in the chapters that follow.

Foundational concepts. Bourdieu (1977) has persistently argued the case for analysis that explores the limits of objectivism. According to Bourdieu, this exploration does not suggest that subjectivism is the preferred position. Rather, Bourdieu's theoretical position encourages researchers to be aware of restrictions that occur when they position themselves in either an objectivist position or a subjectivist one. Specifically, Bourdieu states:

> [I]f we are prepared to inquire into the mode of production and functioning of the practical mastery which makes possible both an objectively intelligible practice and also an objectively enchanted experience of that practice…that we shall do so only if we subordinate all operations of scientific practice to a theory of practice and of practical knowledge…to a theory of the theoretical and social conditions of the possibility of objective apprehension – and thereby to a theory of the limits of this mode of knowledge. (p. 4)

Further, the objectivist research position examines social structures within a framework of economic and material conditions; whereas, research from a subjectivist view focuses more specifically on individual beliefs, opinions, and desires and the underlying symbolic influences. To bridge the gap between these two positions and to take into consideration the merit of combining structures, economics, personal beliefs, and agency, Bourdieu advocates investigating prevailing social structures and corresponding practices. Interrelationships between social structures and classification

systems are also objects of study (Postone, LiPuma, & Calhoun, 1993). I elaborate these concepts in this section.

My research is situated in the qualitative domain. Qualitative research refers to methods, a methodology, or a paradigm (e.g., Mertens, 1998; Wellington, 2000; Creswell, 2003; Johnson & Christensen, 2004) in the education and social sciences literature. The term "qualitative" carries with it a confusing array of definitions, disciplines, and assumptions; therefore, for the purpose of this study, I understand qualitative research to be:

> [A] situated activity that locates the observer in the world. It consists of a set of interpretive, material practices that make the world visible. They turn the world into a series of representations, including field notes, interviews, conversations, photographs, recordings, and memos to the self. At this level, qualitative research involves an interpretive, naturalistic approach to the world. This means that qualitative researchers study things in their natural settings, attempting to make sense of, or to interpret, phenomena in terms of the meanings people bring to them. (Denzin & Lincoln, 2003, pp. 4-5)

Within this qualitative domain, I further locate my conceptual orientation in critical theory within the historical materialist tradition. Calhoun (1993) views critical theory, in an analysis of Bourdieu's concepts, "as the project of social theory that undertakes simultaneously critique of received categories, critique of theoretical practice, and critical substantive analysis of social life in terms of the possible, not just the actual" (p. 63). Similarly, a historical materialist perspective encourages the consideration of contradictions within and across classed gender relations as they are enacted through

women's and men's everyday work experiences. I consider the symbolic and material reproduction of the status quo in society. The symbolic dimension allows for the maintenance and transmission of articulated traditions and the interpretation of these patterns and the materiality dimension involves society's regulation of people as they engage with the physical as well as the social environment (Fraser, 1987). This critical position combined with a feminist viewpoint attempts to disclose and reduce the oppressions and subjugations experienced by marginalized groups. Howell, Carter, and Schied (2002) confirm that a critical and feminist approach encourages understanding of the complexity of social interrelationships and the exploration of the interconnectedness between gender, class, and race. Although gender is the primary focus of my study in conjunction with, to a lesser degree, the influence of class, it is important to be aware that ethnicities, age, and sexual preferences affect how women, men, and work are understood.

Gender, for the purpose of this research, is the "distinctive effect of a complex of social relations specifically defining femininity [and masculinity]" (D. Smith, 1993, p. 160). However, I also take into consideration Skeggs' (1997) assertion that femininity is often defined as that which masculinity is not. Femininity, according to Skeggs, is a historically-constructed category driven by men's desire to establish definite boundaries between women of the bourgeois and women of the working class. Bourdieu (2001) maintains that the women of the petite bourgeois are especially vulnerable to the social gaze. Women are placed in a "'double bind': if they behave like men, they risk losing the obligatory attributes of 'femininity' and call into question the natural right of men to the

positions of power; if they behave like women, they appear incapable and unfit for the job" (Bourdieu, 2001, pp. 67-68). I elaborate these ideas in Chapter 6.

Skeggs (1997) also argues that the emergence of the *working class* as an identifiable category was produced by the middle-class because of their anxieties about their social positioning, their social order. Middle-class individuals also had the desire to confirm their identity and distinguish them from the *other*. The consolidation of the middle-class identity was enacted through "*signs of distinction*" (Bourdieu, 2001, p. 101), often through economic capital converted into symbolic capital (see page 77 for a detailed description of capital). In distinguishing themselves from the other, the middle class sought respectability: "judgements about respectability were central to nineteenth-century visual representations of femininity and moral judgements about women's appearance" (Skeggs, 1997, p. 2), as well as women's home and childcare arrangements.

The notion that femininities and masculinities are socially constructed within a classed system is developed throughout this research. In view of D. Smith's (1993) definition of femininities and masculinities, which is furthered by Skeggs' (1997) analysis of these concepts, it follows then that gender relations are the associations that people form in the process of, and as a result of, historical boundaries demarcated according to what are perceived as feminine and masculine. I also suggest that femininities, as with masculinities (cf. Willis, 1977; Dunk, 2003; McDowell, 2003), are also differentiated according to where people are positioned in society. According to Bourdieu (1984), the social order exists because of people's everyday activities and their specific social, economic, and political situations. The social order is brought about through people's life conditions, inclusions (e.g., marriages, interactions, and

associations) and exclusions (e.g., divisions, hardships, and separations), which are regulated by familial, educational, and social structures and institutions. Resulting principles of divisions, essentially social divisions, become organizing mechanisms that set "objective limits" (Bourdieu, p. 471). It is through these limits, which are often self-imposed, that an individual gains a "sense of one's place" (Bourdieu, p. 471) in the social order. Bourdieu suggests there is a tendency for forgetfulness around these objective limits:

> One of the most important effects of the correspondence between real divisions and practical principles of division, between social structures and mental structures, is undoubtedly the fact that primary experience of the social world is that of doxa, an adherence to relations of order which, because they structure inseparably both the real world and the thought world, are accepted as self-evident. (p. 471)

Self-selection in the social order, where one positions oneself in society, fluctuates depending on the situation. The emergence of classes or the order of people within defined situations is often organized through economic mechanisms. Yet, as documented by Bourdieu (1984), the classification of classes not only rests on the economic, but on the social as well.

Nonetheless, economic influences cannot be discounted; therefore, I incorporate the fundamental dictates of historical materialism, a focus on material conditions and how they influence people's activities. I expand this framework to encompass shifting ideas within these material conditions as shaped by the political economy and society. Armstrong and Armstrong (1990) note that women do not always adhere to the dominant

ideology – the idea that men are the ruling class and as such are predestined to receive higher wages and better jobs. These ongoing interactions between people in the workplace are conducted in an historical context (i.e., this is the way it has always been done), but there must be accommodation for new ideas and actions. Although new ideas do get incorporated into society, the communication of ideas through the media (images), the family (stories), and the everyday rhetoric (societal expectations), especially well-entrenched ideas, are powerful determinants of how people perceive women, men, and work. Ideas and how these ideas are then transmitted into action need to be considered within the context of the political economy.

Keeping in mind the foundational concepts of Bourdieu's social theory and underpinnings of historical materialism, I draw on Connell's (2000) writings to examine gender relations. Connell has outlined four areas that are helpful to theorize the relationships between gendered actors: power relations, labour divisions, emotional relations, and symbolism. First, power relations take account of men's prevalent dominance in workplaces, essentially, a patriarchal view that men, not women, control the political economy. Second, labour divisions are often constructed according to gender. Wage disparities and the benefits men seem to acquire are of particular concern.

The third category, emotional relations, is the practices that emerge from desire, especially when emotion is affixed to a particular entity. Embedded in this category are prevailing heterosexual discourses and how these communications influence gender relations. Lastly, symbolism brings to the forefront the formation and continuing use of voice and body languages and how gender is presented outwardly through people's choice of dress, gestures, and language. Another form of symbolism that informs gender

relations is the bodily occupation of personal space (Nelson & Robinson, 2002) and the symbols conveyed by the media (Mackie, 1991). In support, Bourdieu (2001) views "sexually characterized habitus…[as]…historical and highly differentiated structures, arising from a social space that is itself highly differentiated, which reproduce themselves through learning processes linked to the experience that agents have of the structures of these spaces" (p. 104).

To further examine the (re)production of established structuring mechanisms such as gender and a distinct aspect of materiality, I incorporate in this conceptual orientation Gramsci's notion of hegemony. Forgacs (2000) interprets Gramsci's conception of hegemony in the following way: Political changes are not due to shifting socio-economic situations; rather, alterations in the socio-economic prepare the conditions in which changes are made possible. Critical aspects to uphold, restrict, or expand hegemonic influences are the political relations, organization, and alliances, and strength of opposition at the ideological level. In this research, I explore the macro-political and socio-economic view, as detailed by Forgacs, and then shift my focus to a more micro-political perspective, but continue to consider the influences of macro-social and macro-economic structures. Social and economic activities combined with the intersections and productions of people's political positions are examined from the standpoint of individuals as they negotiate and re-negotiate their gender identities in the industrial field.

Inherent in Gramsci's philosophy is the cultural dimension of how people interact with other individuals. For example, people's language use when communicating, what is deemed to be common sense, and individuals' beliefs and opinions open up opportunities to critique views of society, politics, and economics (Dunk, 2003). These cultural

exchanges advance individuals' conceptions about the way these structures inform and shape society. Further supporting the cultural dimension is the existence of hegemonic relationships found in the underlying political motivations inherent in gender relations (McDowell, 2003). Relationships are formed despite, and perhaps because of, the production of barriers that are erected to protect power positions; thus, power is also constituted through gender relations. Ideal masculinities are premised on, according to McDowell, what is "most respected, desired or dominant within a society" (p. 11). These masculinities are produced and maintained through coercive and abusive attitudes and behaviors that promote exclusion (Connell, 1995) by means of hegemonic practices. Differences, the other, and the inferior, are differentiated from what are considered to be model masculinities. In workplaces, and particularly Canadian industrial jobsites, workplace masculinities are based on a white, male, and heterosexual standard.

The scholarly writings identified above inform this research when juxtaposed with Bourdieu's theoretical approach. According to Postone, LiPuma, and Calhoun (1993), Bourdieu analyzes social practices in order to "elucidate the workings of social power and offer a critical, not just a neutral, understanding of social life" (p. 10). These authors also highlight Bourdieu's determination to reassess research objects and that to accept them at face value without critique, either within the academic realm or at the social level, does not produce quality research. Lastly, these authors reinforce Bourdieu's endorsement that the linking of theory and empirical work is the preferred research approach. The following paragraphs continue to elaborate my conceptual orientation in more detail where I outline field, habitus, capital, legitimacy, symbolic violence, and reflexivity.

Field. An underlying premise of the *field* concept is the representation of historical and objective relations among stakeholders. Bourdieu (1985) depicts the social world as a space constructed because of principles founded on difference or distribution, which are comprised of agents' comparative positioning in an identified social space. Common interests join agents to a particular field even though they may not be striving for the same goals. But because they have agreed to the rules as evidenced by their participation, they are part of the game. *Game* is an analogy used by Bourdieu to describe field (Bourdieu & Wacquant, 1992). Colley (2003) asserts that agents are responsible for influencing the game because of strategic choices made to meet or exceed their interests. Hence, a game's value is also determined or assessed by how capital is (mis)appropriated (see page 77).

Embedded in a field's relations or stakeholders' relative positions is territorial delineation of power and control. LiPuma (1993) suggests it is necessary, in the process of describing a field, to provide an explanation of how the social hierarchy is structured. Fields are the relations between agents who interact organizationally and individually in and across various social, economic, and political productions (Anheier, Gerhards, & Romo, 1995). The field concept is a framework for an analysis of relations where a researcher can take account of stakeholders' multiple positions and how they position themselves in a particular space (Postone, LiPuma, & Calhoun, 1993) (see Chapters 4 & 5).

Fligstein's (2001) interpretation of field incorporates three cultural aspects. The first aspect is based on the relevant technologies and rules that organize the field. The second structuring aspect of a field is how formal or informal rules (local knowledge)

define stakeholders' power relations in relation to each other – as groups or as individuals. The last cultural aspect in how a field is interpreted looks at stakeholders' navigation through the field given its specific localized historical and current circumstances, a notion associated with the habitus concept detailed below. It is through these cultural aspects that a field and related social positions restrict or mobilize stakeholders' real and perceived options for action.

According to Calhoun (1993), one reason Bourdieu established the field concept is that complex societies require an "uncoupling of fields" (p. 77). Agents are connected across multiple fields by, for example, means of production, social networks, and religious beliefs. In the uncoupling of one field from another, it is possible to more clearly identify a field's pertinent players, which helps to reduce the complexity of relationships among stakeholders. In this research, the industrial field refers to a bounded space where agents associated with industrial organizations and employers, governments, and educational institutions meet. In this field, as with all fields, "regulative principles" (Taylor, 2005, p. 166) govern the valued actions and behaviors of involved actors. I investigate the workings of the industrial field and its stakeholders in Chapters 4 and 5. The foundational structure and organizing principles of a field provides a framework where stakeholders operate; albeit, the boundaries and internal dynamics of a field can be shifted by agents depending on their locations in the field and their motivations. Yet, as documented by Calhoun (1993), despite stakeholders' struggles to change the field; relations of the field remain remarkably stable.

Pertinent to this research are two structuring principles that work across most fields and are particularly noticeable in the industrial field: gender and class. Fields have

embedded pockets of entitlement, which are often organized around prevalent notions of gender and class. At an individual agent's level, these categories present differing options for access to economic, social, cultural, and symbolic power or capital (LiPuma, 1993). Here, habitus plays a major role. A dialectical relationship exists between a field's structure and an individual's agency. This is not to suggest that a field is structure and habitus is agency. This simplification misrepresents field and habitus. Rather, field is depicted as the contemplation between stakeholders' practices and the prevailing socio-economic circumstances (Colley, 2003). A description of habitus is detailed in the following section.

Habitus. Various authors (cf. Vandenberghe, 1999; Dreyfus & Rabinow, 1993) note Bourdieu's articulation of the ontological complicity that exists between field and habitus. To clarify this assertion, Dreyfus and Rabinow state: "Our socially inculcated dispositions to act make the work solicit action, and our actions are a response to this solicitation" (p. 38). Vandenberghe notes that social structures are internalized and are represented by habitus and the field is the objectivation of habitus. The correspondence between a field's economic, social, and political structures and stakeholders is mediated by habitus through individuals' dispositions and social relationships. Habitus, as a theoretical concept, is founded on socio-cultural arrangements and stakeholders' actions (LiPuma, 1993).

The primary focus of this research is gender within classed workspaces, work, and the ongoing struggles to negotiate a space that is welcoming for women in the industrial field, be it within a policy structure or not. In this field, similar to other fields, one cannot

disregard how people's behaviours and attitudes are influenced by gender and class as well as ethnicities, age, and sexual preferences (Colley, 2003). These elements relentlessly work with and against each other to develop a "product of conditioning factors" (Bourdieu, 1968, p. 706) and are forceful determinants about how people perceive the interactions between women, men, and work. Bourdieu (1998) refers to these products as *habitus*, a principle that unites and continues to regenerate people's relational positions, which are defined by a set of guidelines or rules dictating what they do, how they do it, and when they do it. Even though these guidelines exist, how people respond to these relations, in fact, determine them (Vandenberghe, 1999). Individual agency does exist; hence, habitus can be transformed in degrees and, along with it, the field in question. But, as noted previously by Calhoun (1993), field relations remain relatively stable and, correspondingly, the habitus that is embodied in a particular field.

It is through mutual interests that group identity and boundaries are established where habitus can be further constructed and maintained. Bourdieu (1998) contends that a "*constitution*" (p. 33) is required to create unity, to bring people of like interests together whether they are corporations, education and training institutions, unions, contractors, environmental organizations, or employees. This cohesion may promote success, or the impression thereof, if the people involved are located in social positions, with common interests and dispositions, where they understand and acknowledge each other and themselves within a field, a shared social space.

Bourdieu's habitus concept is also augmented by Dellinger's (2002) delineation of occupational and organizational cultures. Occupational culture takes into account the values, customs, and peculiarities of a person's job; whereas, organizational culture refers

to the place or location a person does his/her job. I further suggest that Armstrong and Armstrong's (1990) and McDowell's (2003) conceptions inform my theoretical approach because they maintain that examining social practices in combination with a materialist perspective helps with the recognition that gendered identities do not only exist in a social dimension, but also in economic and political dimensions. I take into consideration these theorists' ideas in conjunction with Bourdieu's social theory to explore the complicated mixture of the industrial workers' habitus and related occupational and organizational cultures.

Part of the cultural complexities of the industrial field is the relation between gender and class. Bourdieu's (1977) theorizing of habitus is grounded in class; albeit, he does investigate gender in *Masculine Domination* (2001). In *Masculine Domination*, Bourdieu sees gender as sexual differences, which contributes to the sexual division of paid labour. In *Logic of Practice* (1990), Bourdieu elaborates his beliefs surrounding the sexed body:

> When the properties and movements of the body are socially qualified, the most fundamental social choices are naturalized and the body, with its properties and its movements, is constituted as an analogical operator establishing all kinds of practical equivalences among the different divisions of the social world – divisions between the sexes, between the age groups and values associated with the individuals occupying practically equivalent positions in the spaces defined by these divisions. (p. 71)

In contrast to Bourdieu's description of a "sexed body," Skeggs (2004) contends that a person's body is experienced as a "social body" (p. 21). As a social body, Skeggs

affirms, it is not only structural conditions that influence an individual's body, but also the values and meanings inherent in the social. In her view, the onset of these differentiations begins in childhood where a child learns bodily relations.

To further theorize a gendered class habitus, scholars (cf. McCall, 1992; Skeggs, 1997) have examined and incorporated aspects of Bourdieu's social theory, but with awareness of limitations. One critique is presented by LiPuma (1993). He suggests that Bourdieu gives an insufficient account of habitus' internalization processes and the way it is organized around gender and social class. Therefore, it is important at this juncture to note that feminist scholars (cf. McCall, 1992; Skeggs, 1997) discussed this concern in their writings.

As I conclude this section and move on to explore the concepts of capital, legitimacy, and symbolic violence in the next section, habitus, as articulated by Colley (2003), "can be understood as the combination in each person of previous biography, their sense of identity/identities, lifestyle, personality, class and cultural background, and the beliefs, attitudes and values" (p. 93). Habitus is not only an individual, subjective, or unique disposition, but also embodies the collectiveness of one's field.

Capital, legitimacy, and symbolic violence. In the following paragraphs, I examine the underpinnings of capital and legitimacy. I also highlight Bourdieu's conceptions of symbolic violence and misrecognition. I look at notions of gender and class, which are secondary conditions that work with, through, and between field, habitus, and capital.

In general, *capital* is not limited to material possessions; rather, capital includes non-material dimensions that have the potential to be converted into capital and used to advance agents' goals and aspirations (Calhoun, 1993; Anheier, Gerhards, & Romo, 1995). Capital is positioned and embodied in habitus (Shirley, 1986) and in the associated field. Theorizing capital in a research project requires identification of pertinent capitals, their characteristics, and their influences. It follows then, that to identify specific capital in a particular field calls for knowledge about the way capital is actualized and distributed. But this awareness creates a continuous to and fro interaction: "[I]n order to construct the field, one must identify the forms of specific capital that operate within it, and to construct the forms of specific capital one must know the specific logic of the field" (Bourdieu & Wacquant, 1992, pp. 107-108). With an insight of a field's logic, one discerns what is valued as capital. This understanding also offers a person an ability to grasp changes that may occur as to how capital is assessed and valued.

Capital categories germane to this research include cultural (language use and education credentials), social (relationships, networks, and group memberships), economic (money and property) (Shirley, 1986), and symbolic capital. Symbolic capital is that elusive *something* (e.g., competence, approval, or respect) that people, familiar with the field and habitus, recognize and thus attach value to it (Bourdieu, 1998). Allowing for the particular field and habitus, varying degrees of cultural, social, and economic capital is converted into symbolic capital (Bourdieu, 1984). In turn, when enough and the right kind of symbolic and other capital is acquired, in the context of this research, an employee may then achieve legitimate worker status.

According to Bourdieu (1998), individuals seek to boost their capital based on the real or imagined restrictions of their field and habitus. Agents are essentially:

> [B]earers of capitals and, depending on their trajectory and on the position they occupy in the field by virtue of their endowment (volume and structure) in capital, they have a propensity to orient themselves actively either toward the preservation of the distribution of capital or toward the subversion of this distribution. (Bourdieu & Wacquant, 1992, pp. 108-109)

Postone, LiPuma, and Calhoun (1993) elucidate Bourdieu's articulation of individuals' desires to accumulate capital in that society itself is structured according to capital distribution. Class habitus is formed and agents' positioning in their respective fields and their habitus create expansion or contraction of possibilities for, as an example, career options. Although Bourdieu (1998) situates habitus within the organizing concept of class, as noted above, and uses capital to denote a material-centered determination of culture, his capital concepts are not founded entirely on economic capital. Instead, Bourdieu invokes capital to represent how internal and external capacities have the power to control agents' social trajectories. Moreover, capital acts as a theoretical mediating mechanism between the structuring structures and the individual.

One concept that calls for further clarification is how capital is transformed, converted, or made into an entity that acquires value within a specific field. The type and amount of capital is determined by a person's position in a particular field. Additionally, the designation of capital acts as a structure designed to adjust subjectivity and objectivity in order to align with societal conventions, given its historical timeframe (LiPuma, 1993). Webb, Schirato, and Danaher (2002) indicate that Bourdieu identifies

the struggle for capital in two ways: reproduction and transformation. Bourdieu (2000) declares:

> [T]he strategies that agents use to defend their actual or potential position in social space and, more generally, their image of themselves – always mediated by others – are objectively adjusted to these conditions – which does not mean that they necessarily correspond to the interests of their authors....Thus power, (that is, capital, social energy) governs the potentialities objectively offered to each player...[yet] her desire for power, which being fundamentally realistic, is roughly adjusted to the agent's actual empowerment. (p. 217)

Webb, Schirato, and Danaher (2002) further clarify that people modify their ideals or expectations about the degree of capital they can gain "in terms of the 'practical' limitations imposed upon them by their place in the field" (p. 23). Therefore, people who have limited access to capital because of their education, social networks, and class standing, appear to be content with their limited capital and are not motivated to acquire more (Webb, Schirato, & Danaher).

In addition to the forms of capital stated above, Bourdieu (2001) proposes there are secondary conditions from a social perspective that are not officially part of a person's job scope. As I previously stated, secondary properties include gender, class, ethnicity, age, and social background and, according to McCall (1992), are not labelled as capital, but are significant factors in how legitimacy is viewed and evaluated. Moi's (1991) examination of appropriating Bourdieu's social theory into a feminist frame supports this position. Moi argues that gender is not a research object and is better viewed as part of the social field, that is, gender goes across all fields, not one specific field.

Adkins (2004a) conveys, in her evaluation of Moi's arguments, that gender is relational (cf. Connell, 1995; McDowell, 2003) and, depending on the context, its importance, values, and effects vary from one field to another. The same approach is advocated by Skeggs (1997) when examining and situating class within a gendered context.

Fields are contested sites and the habitus is the product of history where agents (re)produce shared practices (Bourdieu, 1990). Within these social processes and related interactions, capital is converted, assessed, and valued. It is here that the concept of legitimacy comes forward as does symbolic violence and misrecognition. Embedded in symbolic capital is the means to achieve legitimacy, which, in turn, is converted to power (Skeggs, 2004).

Johnson, Dowd, and Ridgeway (2006) suggest that legitimating conditions are upheld through agents' compliance, even if they secretly disagree, to the collective social constructs – the norms, traditions, and values inherent in the field and habitus. In support, Skeggs' (1997) study of working-class women highlights how legitimacy is mired in power or lack thereof: "[W]orking-class people contribute to devaluing and delegitimating their already meager capitals, putting further blocks on tradability, denying any conversion into symbolic capital. When conversion is blocked positions of inequality are maintained" (p. 11). Legitimacy is, therefore, grounded in the everyday, habitual understanding that is mediated between embodied and objective arrangements, which reside below consciousness (Bourdieu, 1998).

Moreover, legitimacy is dynamically linked to the "*symbolic effects of capital*" (Bourdieu, 2000, p. 242, *italics in original*). Bourdieu offers an explanation about the limitations that can be imposed on the conversion of capital into symbolic capitals.

Specifically, Bourdieu asserts that "symbolic capital is not a particular kind of capital but what every kind of capital becomes when it is misrecognized as capital, that is, as force, a power or capacity for (actual or potential) exploitation, and therefore recognized as legitimate" (p. 242).

It is through the process of establishing, maintaining, and promoting differing forms of capital that symbolic violence and misrecognition takes place. Bourdieu (1998) perceives symbolic violence as a person's unquestioned submission to prevalent norms, upheld because of collective ideals and expectations. This theoretical concept, according to Moi (1991) and furthered by Lawler (2004) and Skeggs (1997), is founded on misrecognition. Agents agree to the legitimizing factors even though they may not be in their best interests. For example, it seems "natural" for men to be in positions of power in the public domain. Moi confirms this position with her statement: "Insofar as symbolic violence *works*, it produces women who share the very same habitus which serves to oppress them" (p. 1030, *italics in original*).

Categories of analysis such as field, habitus, capital, legitimacy, symbolic violence, and misrecognition are theoretical tools that encourage exploration of social practices and how they work in contextualized social spaces (Dreyfus & Rabinow, 1993). Reflexivity, another theoretical concept, is presented in the following section. I explore how reflexivity has the potential to expose implicit practices. Reflexivity encourages the researcher to articulate her/his position in the research process and, by implication, creates the researcher as an object of analysis embedded in the study.

Reflexivity. In this section, I draw on two scholars' experiences and theorization of Bourdieu's reflexivity concept to explore this theory. My aim in presenting reflexivity in this manner is to demonstrate in a more concrete manner how theory can be linked to practice. However, I first outline Bourdieu's depiction of reflexivity in the context of academic research.

For Bourdieu, there are two epistemological forms. First, as detailed in the previous sections, there is a "practical sense" or "logic of practice" (Webb, Schirato, & Danaher, 2002, p. 49) where agents negotiate the field and habitus and are aware of the formal and informal rules, values, and capital. Second, in Webb, Schirato, and Danaher's view, Bourdieu articulates a reflexive relation embedded in the field and, likewise, the researcher's relationships and practices to the field. Bourdieu emphasizes reflexivity in research because of his own experiences. In his words:

> I was forced to look back upon my enterprise by the uneasiness that filled me, upon publication, by the feeling I had of having committed a kind of disloyalty by setting myself up as observer of a game I was still playing….I gave myself the means of reintroducing into the analysis the consciousness of the presuppositions and prejudices associated with the local and localized point of view of someone who constructs the space of points of view. (Bourdieu & Wacquant, 1992, p. 254)

Postone, LiPuma, and Calhoun (1993) assert that Bourdieu's dedication to reflexive analysis is built on his awareness that there is not a point from outside the research where a researcher's perspective is neutral.

Skeggs' (1997) approach to her research of working-class women and how these women position themselves in their particular spaces and places models Bourdieu's

reflexivity theory. Skeggs highlights her contextualized experience and the need to acknowledge that, as a researcher, she is accountable for "who made decisions about what I thought was worth knowing about" (p. 29). What is pertinent to this discussion for me is that Skeggs' personal experiences with the field, habitus, and forms of capital are the impetus for her research project. Disclosure of her positioning and relations to the research is of utmost importance in that Skeggs is dedicated to minimizing the tendency to transpose her experiences onto those of her research participants. Rather, Skeggs diligently states her position where necessary to alert the reader to the possibility of falsely representing what the participants portray to suit her own preconceptions.

Another scholar, Adkins (2004b), critically examines Bourdieu's reflexive concept because she is concerned about his presentation of reflexivity. She contends that Bourdieu gives an unsatisfactory explanation of how reflexivity can be possible given agents' historically-constituted fields and geographically-bound communities. Moreover, Adkins is of the opinion that reflexivity should not be linked to individualization where agents need to continuously recreate themselves. Reflexivity should also be uncoupled from detraditionalization or, put in another manner, social transformation. Adkins views detraditionalization as "freedom from gender" (p. 202).

There appears to be a movement afoot to promote the perception that women are "free" from the historical ideals of gender (e.g., women are not capable of working in male-dominant occupations). However, this perception that women are free from gender is shaping workplace practices. One result in removing gender from the taken-for-granted state is documented by Adkins (2004b): "[G]ender is increasingly taking the form of a self-conscious artifice which can be managed, strategically deployed and performed" (p.

202). Thus, workers who display a heightened understanding of reflexivity and draw on their gender to be reflexive about their workplace, "may not lead to a straightforward critical deconstruction of the norms, habits and rules of gender and therefore to detraditionalization (for instance to new forms of economic power for women)" (Adkins, p. 203).

Notwithstanding the concerns articulated above, Bourdieu's formation of reflexivity has the potential to expose arbitrary conditions. The foundational concepts, field, habitus, and capital combined with a reflexive approach to analysis, promotes the practice of theory and the theory of practice. With these theoretical concepts, there is potential to expose in more depth dominate social structures, dispositions, and dualisms (Postone, LiPuma, & Calhoun, 1993).

Conclusion

The intent of this research is to investigate how policies and programs put in place by governments and associated agencies to advance Canadian women's participation in the industrial sector as skilled trade persons are acted out in the education setting and in the workplace. It is my intent to bring forward notions to make it possible to advance people's understandings about the locations of resistance that skilled trade women encounter, despite the past and present demand for skilled labour within the trades that are commonly connected with industrial work in Canada, and to the implementation of pertinent policies, programs, and funding initiatives.

My conceptual orientation is founded on Bourdieu's theoretical approach – the integration of theory and practice. Embedded in this approach are the links between

theory and method. I have selected Bourdieu's theory because of the ease in which supporting theorists' ideas can be used to further examine the data. In this analysis, I draw on Bourdieu's writings about field, habitus, capital, legitimacy, symbolic violence, and reflexivity, but I also include scholarly literature from the historical materialist feminist paradigm located in the qualitative domain (cf. Skeggs, 1997; Gramsci (Forgacs, 2000); McDowell, 1999, 2003; Connell, 1995, 2000; and D. Smith, 1993, 1999).

The following two chapters, Chapter 4 and 5, take into account Bourdieu's edict to establish the field, its stakeholders, and historical underpinnings. Bourdieu (1990) states: "In a game, the field…is clearly seen for what it is, an arbitrary social construct, and artifact whose arbitrariness and artificiality are underlined by everything that defines it autonomy – explicit and specific rules, strictly delimited and extra-ordinary time and space" (p. 67). Bourdieu also notes that social fields are "the products of a long, slow process of autonomization" (p. 67). I recount the uneven progress towards autonomization for women in the highly masculinized industrial field in Chapters 4 and 5. Thus, the intent of these chapters is to clearly describe the elements that make up the social space and the explicit as well as implicit structures that continue to inform current practices in the industrial sector.

CHAPTER FOUR

CANADA'S INDUSTRIAL SECTOR: THE FIELD

The industrial field is a multifaceted system and, to the casual observer, somewhat incoherent because of its complexity. This sector is often referred to as heavy industry, construction, or industrial. In my experience, people who do not work in this area have only a cursory understanding about this field, which is intriguing given the industrial field's pervasive presence throughout Canada. To unravel some of the mystery surrounding the industrial field, I draw on Bourdieu's theory of field to distinguish the structural and institutional contexts and the stakeholders, all elements that contribute to industrial workers' habitus (see Chapter 6).

In this chapter, I am *uncoupling* the industrial field to: a) define a field, b) establish the stakeholders and their relative positions in this field (Calhoun, 1993), and c) expose the founding characteristics that shape the current industrial worker habitus, organization of work, and workplace cultures. Although I draw on literature about the industrial field, the information presented here is my interpretation and underpins the analysis in the following chapters. I first introduce Canada's economic resources. In the section that follows, I describe select components of the industrial and construction sectors to illustrate contrasts and similarities. I differentiate between heavy industry and construction sectors, and civil work.

I further explore the residential, commercial, industrial, and civil categories, which have characteristics in common with heavy industry and construction sectors. In this section, I also describe Canada's North American Industry Classification System

(NAICS) (Statistics Canada, 2006). The NAICS system is used by the federal government to organize and assess industry status. Industrial field projects are distinct, yet there is considerable overlap with associated sectors. This is where some of the confusion about the industrial field surfaces because project boundaries are not clear. Another factor that adds to the confusion is the term *construction*. When people refer to construction, the word takes on particular meanings because there are subtle differences depending on context. Therefore, I define and explore more fully the term *construction*. I follow this section with a brief historical overview of the oil and gas sector to demonstrate the progress of one aspect of this field. I then identify select stakeholders who are involved in the petroleum area. For people who are unfamiliar with this field, many of these same stakeholders also work in the corresponding sectors previously mentioned.

Canada's economic resources: An introduction

Canada's distinct political structure combined with its diverse geographical areas significantly influences its economic and socio-cultural features. Canada is governed by an overarching federal system consisting of 10 provinces and three territories. Federal, provincial, and territorial governing bodies have clear jurisdictional boundaries in, for example, education, social policy, health and welfare, and natural resource development. Canada's geographical regions also play a central role in local economic conditions, which, accordingly, helps to define a province's or territory's unique socio-cultural characteristics. Arguably, geographical locations and established provincial and territorial boundaries affect provincial and territorial economic resources and economic stability.

Local economies rely on industries such as agriculture, fisheries, forestry, hydrogen and fuel cells, renewable energy, and mines, metals and minerals, and petroleum (Industry Canada, 2006).

A major industry in Canada is construction work. Broadly, construction work encompasses the building of cross-country railroads, highways, and pipelines, hydro-electric dams, municipal infrastructures such as freeways, streets, hospitals, and residential construction (e.g., apartments and houses), mining, petrochemical plants, and crude oil and natural gas facilities. Currently, there is a great deal of interest in a specific area of the industrial sector – the downstream and midstream petroleum resource industries (refinery, processing, transportation, supply, and marketing) and the upstream side (exploration and production). Included in this type of work is petrochemical construction and maintenance. These industries employ numerous skilled trade workers. The petroleum industry, in particular the midstream side, processing and storage of crude oil and natural gas and pipeline transportation systems, and the downstream side of this industry, marketing and refining of these petroleum resources and petrochemical production, have provided a strong economic base for Canada: albeit, some parts of Canada more so than others.

To help foster an understanding of this multifaceted and highly structured field, I outline different aspects of the industrial field and define "construction" and its various delineations in the following section.

Canada's industrial field: The boundaries

The logic that shapes the industrial field is founded on its particular history and class structure. In this conceptualization of the industrial field, I examine the structural elements that create a "field of power" (Bourdieu & Wacquant, 1992, p. 105). Bourdieu reminds us, it is the knowledge of the field that "allows us best to grasp the roots" (Bourdieu & Wacquant, p. 107) of stakeholders' positions and their views.

According to the Construction Sector Council (2006), Canada's construction sector has evolved into four distinct areas: a) building houses and related renovations, b) erecting power plants, automotive facilities, and cement factories, c) developing institutional and commercial buildings such as hospitals, stadiums, large apartment complexes, and d) constructing civil projects including bridges, highways, power lines, and dams. In contrast to this clear description of the construction sector, heavy industry has numerous definitions, thus it is more difficult to ascertain distinctive boundaries. Heavy industry can refer to projects that require high capital investment and are difficult to relocate due to the need for immense production facilities. A more common understanding of heavy industry is the facilities built and maintained that generate products not generally intended for retail; rather, goods are produced for intermediate industries.

Work in these industries calls for procurement of labour, material, and equipment to design, construct, and maintain petroleum (crude oil and natural gas), petrochemical (derivatives of petroleum), chemical, power, cogeneration, steel, metals and mining, pulp and paper, and nuclear facilities. Although this description of heavy industry establishes boundaries from the construction sector, there is an additional element that contributes to

the confusion in delineating these areas. A portion of the work classified under the construction sector is also considered heavy industry, in particular, the work required to build and maintain power plants, automotive facilities, and cement factories.

Another consideration in establishing boundaries for work using skilled trade labour (see Chapter 5 for a detailed discussion of skilled trades) in the construction and heavy industry sectors is the divisions of residential, commercial, industrial, and civil. These categories somewhat reallocate project boundaries between heavy industry and construction work described above. Residential work pertains to building and renovating houses, duplexes, and very small apartment complexes; whereas, large apartment developments, multi-use buildings such as high-rise buildings, and sports facilities and institutional buildings (schools, hospitals, and government) fall under the category of commercial enterprises. Similar to heavy industry, projects within the industrial framework are large factories, crude oil and natural gas, petrochemical, chemical, power, cogeneration, steel, metals and mining, pulp and paper, and nuclear facilities. Lastly, civil work is the building and continued upkeep of land transportation infrastructures, dams, bridges, and power transmission right-of-ways. Projects within the civil category also involve sub-grade and above-grade site preparation of residential, commercial, and industrial jobs.

One more important categorization system that needs to be added to this array of definitions is the North American Industry Classification System (NAICS). This system has been put in place by the Canadian government, in conjunction with Mexico and the United States, to establish common industrial structure definitions and a statistical basis to analyze the economies of these countries (Statistics Canada, 2006). Supply side

principles are the basis for NAICS categories. Directly related to this research are NAICS 21 Mining and Oil and Gas Extraction, NAICS 22 Utilities, NAICS 23 Construction, NAICS 31-33 Manufacturing, and NAICS 48-49 Transportation and Warehousing. Table 3 below, further describes the specific NAICS sub-categories to aid in defining the industrial field's boundaries.

Table 3. Sub-sections of North American Industry Classification System (NAICS)

Sub-sections of North American Industry Classification System (NAICS)							
NAICS Primary Number	NAICS Primary Category Description	NAICS Sub-sections					
21	Mining and Oil and Gas Extraction	211 Oil and Gas Extraction	212 Mining (except Oil and Gas	213 Support Activities for Mining and Oil and Gas Extraction	----------	----------	----------
22	Utilities	2211 Electric Power Generation, Transmission and Distribution (includes nuclear, hydro, fossil-fuel and other electric power generation)	2212 Natural Gas Distribution	2213 Water, Sewage and Other Systems	----------	----------	----------
23	Construction	236 Construction of Buildings	237 Heavy and Civil Engineering Construction	238 Specialty Trade Contractors	----------	----------	----------
31-33	Manufacturing	321 Wood Product Manufacturing	322 Paper Manufacturing	324 Petroleum and Coal Products Manufacturing	325 Chemical Manufacturing	331 Primary Metal Manufacturing	332 Fabricated Metal Product Manufacturing
48-49	Transportation and Warehousing	486 Pipeline Transportation	----------	----------	----------	----------	----------

Source: Statistics Canada, 2006.

Table 4 below, illustrates how project-specific boundaries have shifted in NAICS in contrast to heavy industry and construction sectors, as well as commonly referred to

categories of residential, commercial, industry, and civil. The NAICS number in the right column corresponds directly to NAICS primary number identified in Table 3 above.

Table 4. Comparison of Industry Classifications: Canada's Construction Work

Comparison of Industry Classifications: Canada's Construction Work							
Types of Projects	Heavy Industry Sector	Construction Sector	General categories				North American Industry Classification System (NAICS number indicated in brackets)
			Residential	Commercial	Industrial	Civil	
Petrochemical (crude oil and natural gas)	Yes	No	No	No	Yes	No	Yes (21)
Chemical	Yes	No	No	No	Yes	No	Yes (32)
Power and cogeneration	Yes	Yes	No	No	Yes	No	Yes (22)
Steel	Yes	No	No	No	Yes	No	Yes (33)
Metals and mining	Yes	No	No	No	Yes	No	Yes (21, 33)
Pulp and paper	Yes	No	No	No	Yes	No	Yes (32)
Nuclear	Yes	No	No	No	Yes	No	Yes (22)
Residential house, duplex, small apartment	No	Yes	Yes	No	No	No	Yes (23)
Institutional buildings (hospitals, schools)	No	Yes	No	Yes	No	No	Yes (23)
Commercial buildings (large apartment complexes, multi-use buildings)	No	Yes	No	Yes	No	No	Yes (23)
Automotive facilities and cement factories	No	Yes	No	No	No	No	Yes (23)
Bridges	No	Yes	No	No	No	Yes	Yes (23)
Transportation infrastructures	No	Yes	No	No	No	Yes	Yes (23)
Power transmission	No	Yes	No	No	No	Yes	Yes (22)
Dams	No	Yes	No	No	No	Yes	Yes (23)
Civil (sub-grade and above-grade work)	No	Yes	No	No	No	Yes	Yes (23)

As demonstrated by Table 4 above, the current system has evolved to meet industry needs, a system of work that has the potential to create tremendous confusion for people who are not indoctrinated into this field. Yet, for individuals who are familiar with the industry, people working on jobsites, or people most closely associated to these skilled trade workers, the terms "heavy industry," "construction," and "industrial" are indistinguishable from one another in most projects.

Integral to all these projects is the term *construction*. Construction can be applied in a general fashion, but there are certain contexts where this word has a specific meaning. According to the Oxford Dictionary, construction is "the action or process of constructing" (Pearsall, 1999, p. 305). This definition is the foundation from which I expand the concepts incorporated throughout this discussion. Construction describes and identifies notions in the industrial field in the following ways:

1. Construction project "is a distinct and unique subsetting within the larger society. Bounded in both time and space, it exists for only a limited duration and has a malleable, ever changing, physical structure" (Riemer, 1979, p. 101).
2. Construction firm, construction company, or construction contractor is an entity that supplies labour, material, and equipment necessary to design and/or build and maintain, for example, industrial facilities and transportation systems.
3. Construction industry consists of numerous dimensions including owners, engineers, unions, related associations, non-union organizations, contractors,

sub-contractors, and skilled trade people involved in project design, construction, and maintenance.

4. Construction trade, construction craft, or skilled trade encompasses trade specific skills and knowledge with defined boundaries established by industry standards, which are determined by union jurisdictions and/or divisions of apprenticeship instituted by government laws and regulations.
5. Construction union, trade union, or craft union is a labour group organized around a specific craft or skilled trade engaged in collective bargaining, supplier of labour, provider of training, and administrator of member benefits and pensions (Jackson, 2005).
6. Construction labourer or construction helper is an entry-level worker who has the potential to enter into a contractual agreement to apprentice in a skilled trade.
7. Construction tradesman, construction tradeswoman, construction tradesperson, construction trade people, or construction worker are hired by owners, contractors, and sub-contractors because these people the have skills and knowledge required to perform necessary apprenticeable skilled trade tasks, for example, industrial and mechanical trades (e.g., boilermaker, insulator, and instrument mechanic) and metal fabricating trades (e.g., sheet metal, welder, and steamfitter-pipefitter). A tradesperson uses a specific skill or set of skills for product creation (Krahn & Lowe, 2002). Many skilled trade people refer to themselves as skilled trade workers, industrial trade workers,

journeymen, journeywomen, or journeyperson. I expand the skilled trade definition and the work involved in Chapter 5.

To summarize, construction refers to the process instituted to build an infrastructure for a specific purpose. It also provides a context in which to describe a particular object, person, or entity. Construction identifies where a person is situated within the business-related sector (e.g., a person owns a business in construction) or occupational field (e.g., a person works in construction). Construction is broad in scope as demonstrated by the definitions above. Heavy industry, residential, commercial, industrial, and civil, and the NAICS, all include construction work. In addition to the parameters that construction places upon people, companies, and locations in the field, the term is narrow enough to create a framework to isolate specific trends, patterns, events, and habitus found in Canada's industrial sector.

In the next section, I outline select events that have contributed to the development of Canada's oil and gas sector. I highlight the happenings in this sector because the oil and gas industry has significantly affected how industrial work is carried out in Canada.

Canada's petroleum industry: An example of historical influences

To understand a field, Bourdieu (1990) notes that it is important to delve into its historical underpinnings. In this section, I briefly introduce a sequence of events that have established the blueprint for the current organization of labour and work structures in this field. I build on the information presented here in Chapter 5.

Over thousands of years, combinations of "sand, silt, mud and the remains of living creatures in sedimentary basins" (Bott, 2004) fused under the Earth's surface to form petroleum. The first recorded instance of crude oil production[1], that is, purposely extracting petroleum from beneath the earth's surface, is credited to one of Tripp, Williams, or Shaw[2]. This event occurred between 1852 and 1859 at Enniskillen Township, Canada West presently known as Oil Springs, Ontario. Approximately 50 years later, in 1914, the Turner Valley oil discovery hit the headlines in the province of Alberta. The next significant oil find was in 1920 at Norman Wells, Northwest Territories (McKenzie-Brown, Jaremko, & Finch, 1993; Gray, 2004). From the 1920s onward, oil discoveries were made throughout Canada. One of the most significant oil discoveries was Alberta's Leduc Well No. 1 in 1947. In fact, it is suggested that because of this discovery, "Canada went from oil-poor to oil-rich" (Western Office for the Partnership of Advanced Skills and the Petroleum Human Resource Council of Canada, 2004). Petroleum was then found in Manitoba (1951), Saskatchewan (1953), British Columbia (1957), and other locations throughout Alberta (Bott, 2004).

Similarly, a search for natural gas ensued during the late 1800s and early 1900s. The first recorded natural gas find in 1883 was accidentally discovered by Canadian

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[1] In 1719, Wa-pa-su, a Cree Indian from north eastern Alberta took a sample of bitumen, Athabasca tar sands, to Henry Kelsy, a Hudson Bay factor at York Factory (Gould, 1977). Oil that seeped from these tar sand deposits were used by Aboriginals – a phenomenon that has been recorded in history for many years (Bott, 2004).

[2] Charles Tripp and his brother Henry Tripp from Woodstock, Ontario are confirmed to have established the first North American oil company, the International Mining and Manufacturing Company in 1951 (Gray, 2004); however, there are discrepancies who physically dug the first oil well (cf. Gould, 1977; McKenzie-Brown, Jaremko, & Finch, 1993; Bott, 2004; Gray, 2004).

Pacific Rail at a rail siding near Medicine Hat, Alberta. In 1890, the first commercially-produced natural gas happened in a Medicine Hat field (Gould, 1977; Gray, 2004). Numerous other gas fields were found in New Brunswick (1859) and Ontario (1866) (Bott, 2004). Even though natural gas was often discovered along with oil, it was treated as a waste product for years.[3]

With the discovery of oil and gas in Canada, the foundation for a lucrative industry was set in motion. To construct the necessary infrastructure, it soon became apparent that different skills and knowledge were needed. Through a process of trial and error, Canada's petroleum pioneers, the wildcatters (those who searched for petroleum), drillers, investors, geologists, and land entrepreneurs (Laxer, 1983), in the mid 1800s, created the base for the present-day organization of labour and the structure of work for the industrial field. Today, the petroleum sector is an extremely complex and intricate system. Sophisticated exploration, production, and transportation techniques are now used by multi-national corporations and independents alike. Provincial, territorial, and federal governments have put in place comprehensive regulations to monitor natural resource development. Governments are concerned with competition (regulation and deregulation), conservation and environment (especially emission control to protect the environment), marketing, and interprovincial as well as the international energy sector (Bott, 2004). This industry has flourished since the 1940s throughout Canada, in particular, Alberta, Quebec, and Ontario (Lauzon, 2007). The crude oil, natural gas, and

[3] For a more detailed account of Canada's oil and gas history refer to Gray (1970, 2004), Gould (1977), McKenzie-Brown, Jaremko, & Finch (1993), May (1998), and Bott (2004).

petrochemical industries have had a tremendous impact on Canada's local, national, and international economic positions.

In the previous sections, I outlined some external determinants and historical dynamics that have influenced the industrial field (Bourdieu & Wacquant, 1992). Keeping in mind these determinants and historical foundations, in the following section, I use this information to identify and situate select industrial stakeholders.

Canada's industrial field: The stakeholders

The history of Canada's petroleum industry provides a foundation to position pertinent stakeholders who are involved in the industrial field. Although, as noted earlier, these stakeholders may also be associated with other areas of this field, the petroleum sector gives me an opportunity to limit this discussion while at the same time explore the relationships among a diverse, yet specific group of people.

The industrial field requires engineered processes to design, construct, and maintain associated infrastructures. Federal, provincial, and territorial governments, agencies, and corporations have implemented systems to take advantage – some would go so far as to suggest the exploitation – of Canada's natural resources. Bourdieu's "principle of the dynamics of a field" (Bourdieu & Wacquant, 1992, p. 101) is evident at this juncture: Stakeholders struggle for power positions, which constantly re-establishes the field and its structure. Bourdieu adds:

> [T]he field as a structure of objective relations between positions of force undergirds and guides the strategies whereby the occupants of these positions seek, individually or collectively, to safeguard or improve their position and to

impose the principle of hierarchization most favorable to their own products. (Bourdieu & Wacquant, p. 101)

Products that most stakeholders vie for, with the exception of some special interest groups, are profits and control of resources. To achieve these products, powerful stakeholders have established a standard process around the design, fabrication, and maintenance for the necessary infrastructures. One identifiable piece that sustains this process is a complex organization of work, a structure or arrangement of work that is germane to Canada's industrial sector and upheld by its stakeholders (see Chapter 5).

There are numerous stakeholders who have a variety of interests in Canada's petroleum and petrochemical industries: governments, corporations and owners, special interest groups (e.g., municipalities, environmental groups), municipalities and districts/regions, unions and labour associations, non-union organizations, contractors, sub-contractors, education and training agencies, and employees. Often the interests of these stakeholders do not coincide. Bourdieu (1990) suggests that there is an "institutionalization of distinction, inscribing it in the hard, durable reality of things or institutions" (p. 139). Distinction in the industrial field occurs at the institutional, organizational, and individual level. For example, federal, provincial, and territorial governments attempt to control interprovincial and international imports and exports sometimes to the dismay of corporations and owners. Owners, typically multi-national corporations – albeit, there are provincial/territorial and national corporations and independent business owners – tend to be most interested in the bottom line: Is there a profit to be made from an investment?

In contrast to focusing on the profitability of the project, special interest or policy action groups take up issues to influence governments and corporations to implement policies that align with their specific concerns. These groups are generally deliberating over such issues as preserving the environment, establishing land ownership and property rights, controlling corporate laws and regulations, shifting industry standards, promoting workers' health and welfare, and advancing employment opportunities for ethnic minorities, people with disabilities, Aboriginals, youth, and women. Stakeholders for special interest groups are frequently municipalities, districts, not-for-profit organizations, environmental groups, and individuals troubled by events who gather resources to protest or advocate for a particular initiative.

Organized labour (commonly referred to as labour or trade unions as defined above) is more likely to protect workers from unsavoury contractors who exploit their workers or, as with some special interest groups, scrutinize work conditions to promote the health and safety of their union members – skilled trade workers. Labour organizations are involved with apprenticeship curricula, apprenticeship recruitment, apprenticeship completions, and member skill training. Unions have, from the onset, been involved in the industrial arena. However, organized labour has not, in the past, actively challenged the predominant division of labour between men and women evident in the industrial field; specifically; skilled trade work is men's work. Sugiman (1992) endorses this observation. In her study about the unionized auto industry in Ontario, Sugiman found that a masculinized culture is maintained through collective agreements as well as seniority systems. Such agreements and systems presently exist in the unionized sector of

the industrial field. Further, Sugiman suggests that leaders of organized labour have not historically challenged the inequitable treatment of women.

Another aspect of organized labour's history details the ongoing struggle to maintain their presence in these labour markets (cf. Krahn & Lowe, 2002; Jackson, 2005; Kumar & Schenk, 2006; MacDowell & Radforth, 2006a), especially since federal, provincial, and territorial labour laws often permit non-unions or open shop and non-traditional unions such as the Christian Labour Association of Canada (CLAC) to operate. Non-union or open shop workers are not required to belong to a union (Open Shop Contractors Association, n.d.).

Even though open shop employees do not belong to a labour union, non-union construction companies may be members of associations such as the Merit Contractors Association (Thompson, 2006). These associations have established dental, medical, and other benefit plans that many contractors on their own cannot afford; albeit, pension plans are not usually included. Contractors may also be signatory to CLAC, which is a non-traditional union that has set up bargaining units throughout Canada. They promote themselves as a union "based on Christian social principles" (CLAC, 2006). As mentioned previously, traditional trade unions have fought the increasing presence of non-union and CLAC representation in the industrial field, but unions are losing their foothold in Canada. In 2003, only 33 percent of Canada's construction workforce was unionized, and in the forestry, fishing, mining, oil and gas industries, 24.8 percent were affiliated with unions (Jackson, 2006). Despite the advent of non-unionism or non-traditional unions in various Canadian locations, organized labour continues to play a

major role in supplying skilled trade labour to contractors to meet their human resource requirements.

Employers are commonly known as contractors or sub-contractors and can be union or non-union. In some provinces and territories, depending on their labour laws and regulations, a construction company has the possibility to create a union arm and a non-union arm. This corporate structure is called "double-breasting." However, there are locations where this corporate organization is strictly forbidden and subsequently enforced. The provinces of Saskatchewan and Quebec illustrate this point. The Saskatchewan government amended their *Construction Industry Labour Relations Act* in 2000 to "prohibit double-breasting…[to] level the playing field for all construction firms" (Government of Saskatchewan, 2000). Stricter laws apply to those construction companies operating in Quebec where union membership is mandatory. Since 1994, the Quebec provincial framework for construction is organized into only four categories, all which are monitored within a union context: Civil and roadwork, industrial, residential, and commercial and institutional (Commission de la construction du Québec, 2006).

Regardless of union or non-union affiliations, contractors work with owners or corporations to design, build, or maintain industrial projects. Engineering firms are often situated under the owners' managerial umbrella, in-house, or they may be independent organizations who are invited to submit bids on projects out for tender. A general or a primary contractor enters into a contract with an owner. The mechanical contractor usually has a contractual agreement with the general, but can also contract with an owner. However, the electrical contractor may work directly for the owner or perhaps act as a sub-contractor to the general. Civil work is often undertaken by the general or, if the

general contractor does not have the expertise, civil work is put out to tender and, upon award, is considered a sub-contractor to the general. On extremely large projects, consortiums or numerous owners join ranks to procure necessary labour, material, and equipment to complete the job. Similarly, large projects may require or even dictate that more than one general contractor be awarded contracts. Under these conditions, the owner may establish an umbrella construction management group to liaise with general contractors.

One of the most important stakeholders in the industrial field is the employees and most of them are men (see page 163 for statistics to support this assertion). Individuals hired to design, construct, and build the various projects are the construction manager, project manager, construction superintendent, general foreman/woman, foreman/woman, lead hand, journeyman/woman/person, apprentice, helper, and labourer. Through the design, construction and ongoing maintenance stages of producing, transporting, refining, and processing petroleum and petrochemical products extensive use of skilled trade labour is required. Skilled trade people use their skills and knowledge to fit together, from an idea generated on to a set of blueprints, a complexity of concrete, steel, wires, and metals, with the end result being a safe and functional unit that produces the desired product.

To advance the skills and knowledge necessary to build these projects, education and training agencies are key stakeholders in the industrial field. Within the framework of this research, with its focus on skilled trades, those agencies that offer pre-trade, pre-apprenticeship, pre-employment, and government-sanctioned apprenticeship training such as colleges, technical institutes, not-for-profit and for-profit training organizations

are essential partners. High schools are also critical partners with their mandate, or lack thereof, to introduce students to skilled trade occupations as viable career options.

Connecting the interests of government, business, labour, education, professional groups, and interest groups are sector councils, which are partnerships with economically-linked organizations (Government of Canada, 2005). These partnerships are established by the federal government under the Government of Canada's Sector Council Program (SCP). At present there are 31 sectors councils. Each council is a group of stakeholders who are involved in a particular industry with a mandate to address human resources issues. In this situation, stakeholder interests do have common characteristics. SCPs are put in place to: a) identify human resource, skill, and training issues, b) develop strategies and solutions to overcome these concerns, and c) involve the various actors through all these processes. Councils administer and provide upside adjustment programs, coordinate skills advancement funding, and establish industry benchmarks (Gunderson & Sharpe, 1998).

Sector councils directly associated with petroleum and petrochemical industries are the Canadian Apprenticeship Forum (2006); Construction Sector Council (2006), Canadian Steel Trade and Employment Congress (2006); Forum for International Trade Training (2006), Mining Industry Human Resources Council (2006), and the Petroleum Human Resources Council of Canada (2006). These sector councils are seeking solutions to identified problems of skill requirements, recruitment, and retention as well as assisting school to work transitions, establishing occupational standards, and advancing workplace learning (Government of Canada, 2005). To meet these objectives, sector partners must be willing to negotiate a viable plan of action for all parties involved.

Conclusion

Petroleum and petrochemical industries have proven to be significant contributors to Canada's economy and are an integral part of heavy industry, which, in part, is the exploration and discovery, fabrication and construction, and maintenance of pipelines, crude oil and gas facilities and refineries and petrochemical processes. The combined production of these industries contributes greatly to national and international markets.

Bourdieu's theory of field is useful to *uncouple* a field. The preceding examination of the structural and institutional contexts, and historical influences, exposes the complex relationships among stakeholders. Examining interconnected relationships among stakeholders helps to diminish the mysteriousness of the industrial field and brings to the forefront the "regulative principles" (Taylor, 2005, p. 166) that govern stakeholders' actions and behaviors.

Stakeholders and their associated institutions carry with them the historical legacy of the industrial field, a history of men and their stories. This field continues to be shaped by stakeholder interests and their power positions, though the industrial field and its stakeholders have remained remarkably intact for the past century despite external and internal struggles to shift the locus of power. That is, control typically rests with those stakeholders who have the economic clout to initiate and/or withdraw their support for the design, construction, and maintenance of industrial projects. Undoubtedly, the industrial field is a contested space around the material relationships between stakeholders.

In the following chapter, Canada's Skilled Trades, I build on these topics with particular attention to the stakeholders, related skilled trades, and further define the

characteristics that influence Canada's industrial field, habitus, organization of work, and workplace cultures.

CHAPTER FIVE

CANADA'S SKILLED TRADES

In this chapter, I examine in more detail the workings of the industrial field with a particular emphasis on the skilled trades. I define skills, skilled trades, and apprenticeship and explain designated trades, Red Seal program, and what is meant by compulsory and voluntary trades. I briefly introduce the history of Canada's skilled trade development, which expands the vocational education and training policy discussion in Chapter 2. To demonstrate the introduction of the institutionalization of apprenticeship in Canada, I investigate three examples of skilled trade progression from the late 1800s and early 1900s.

I also study Canada's skilled trade apprenticeship system in the 21st century, especially issues and concerns in an environment reacting to social, economic, and political demands. I look at labour requirements, training of non-traditional labour sources such as women, recent government policies, and pressures to change the current apprenticeship system (e.g., trade qualifications, compulsory versus voluntary trade classifications, and isolated training and qualification units). Throughout this chapter, I expose structural and institutional mechanisms that have contributed to the current habitus, organization, and culture of the industrial field. I build on the information presented in previous chapters to reiterate labour organization, work structures, locations, and stakeholders within the industrial field – elements that affect habitus.

This background information is intended to foster understanding about how this industry operates today and provide a basis for my subsequent analysis.

Definitions: Skills, skilled trades, and apprenticeship

Bourdieu (1990) contends that "objects of knowledge are constructed" (p. 52) and the principle of these constructions is habitus. As a product of history, habitus "produces individual and collective practices – more history – in accordance with the schemes generated by history" (Bourdieu, p. 52). The evolution of Canada's skilled trades is an example that exemplifies Bourdieu's theory of habitus: Skilled trade practices are a series of historical events that continues to produce more history that is gendered in particular ways.

Categorically, designated skilled trades (see below) developed due to the acknowledgement, negotiation, and successive agreements among stakeholders that identifiable skill sets exist and can be attached to specific crafts or trades. An underlying concept embedded in establishing craft boundaries is skill. But what is skill? Skill, according the Oxford Dictionary, is defined as "the ability to do something well; expertise or dexterity" (Pearsall, 1999, p. 1344). Certainly few people would argue with this definition; however, there are a couple of missing dimensions: a) who decides what is a skill, and b) how is skill mastery determined? In 1928, Renold wrote that skill is: "Any combination, useful to industry, of mental and physical qualities which requires considerable training to acquire" (p. 593).

In his skill discussion, Renold (1928) further contends there may be merit in separating industrial skill into components such as hand skills or dexterity, mental skill or knowledge, or decision-making power, but to do so is pointless because it is the combination of these elements that is the basis upon which a person's worth is assessed in the industrial field.

Therefore, skill is ascertained by industry – men who have and continue to socially construct the meaning of skill. It is these same people who influence the measures that are put in place to assess skill competence. Renold (1928) also suggests that skill involves not only dexterity, but knowledge, both mental and physical, and decision-making capacities, and the need to institute some form of training to attain expertise.

Since the early 1900s, when Renold (1928) outlined his conception of skill, numerous authors have debated the concept of skill (cf. Polanyi, 1962; Braverman, 1974; Lee, 1981; Wood, 1982; Form, 1987; Attewell, 1990; Knights & Willmott, 1990; Steinberg, 1990; Vallas, 1990; Wajcman, 1991; Ainley, 1993; and Steiger, 1993). Debates include degradation of skill or de-skilling, patriarchal bias inherent in skill, social construction of skill, and divergent views as to how sociologists and psychologists approach the skill concept. It is not my intent to elaborate these debates here; rather, the objective is to expose the complexity of skill. Thus, I limit this discussion to an exploration of the social construction of skill as well as the gendering of skill, and elaborate these ideas in this chapter and in Chapter 6.

Steiger (1993) maintains there are two basic elements in socially constructing skill: a) establish the skills needed for a job, and b) determine how to judge a person's skill set. In judging whether a person has the required skills, a variety of criteria are used. Criteria include formal training credentials, quality and length of experience, association or union memberships, licenses, "or a number of social criteria like sex, race and ethnicity" (Steiger, p. 537). These criteria are similar to Renold's (1928) in that skill acquisition is structured according to what is required within a particular workplace –

mental aptitude and physical ability – yet Steiger neglects articulating the agency involved in organizing and executing skill. However, the two definitions are comparable in that the institutionalization of skill is furthered through some form of assessment.

For this research, I borrow from Renold's (1928) and Steiger's (1993) skill definitions. First and foremost, skill is a combination of mental aptitude and physical ability needed by industry within a space that allows for decision-making. Second, skill expertise is realized through on-the-job and/or in-class training. Third, social closure, that is, systems put in place to exclude, control, and restrict access to resources (Tilly, 1998) are instituted because of admission to networks, association with unions, and acquisition of trade qualifications. Skill assessment has evolved to a standardized training system to attain recognized credentials. Steiger asserts that the requisite for credentials is, in fact, a "process of social closure of particular occupational groups" (p. 537).

The notion of *social closure* is embedded in the social construction of skill, the gendering of skill. Not only are credentials, networks, and union memberships put in place to limit people's access to skilled trade work, once employed, a worker's ownership of proper and appropriate tools and how he/she handles these tools are used by other crafts people and employers to gauge one's skill expertise (Steiger, 1993). In addition to demonstrating skill, Cockburn (1983) contends that in the working class environment, for example, an examination of the politics of skill exposes how men view themselves as men; essentially, skill equates to masculinity.

Gaskell (1992) contributes to the argument that the politics of skill is not a technical one; rather, the value of skill is entrenched in politics, culture, and economics. Judgements about skills are overwhelmingly influenced by social context. Gaskell states:

"Labelling and valuing particular abilities involves an ongoing historical struggle between workers and employers, and between different groups of workers. Women have not fared well in these struggles" (p. 117).

Of particular interest for this research, women typically do not have access to skill trade knowledge, thus experience social closure to the construction field. Support of this assertion is somewhat evident when reviewing the low number of Canadian women registered in industrial apprenticeships or achieved journey status (see page 163). Within this framework, it is possible to broadly define "skilled trade" and "apprenticeship."

A skilled trade, that is, a designated trade, is where a provincial or territorial government has legislated a provincial or territorial apprenticeship program (Canadian Council of Directors of Apprenticeship (CCDA) & Canadian Labour Force Development Board National Apprenticeship Committee (CLFD), 1996). Apprenticeable trades and the related criteria to meet certification requirements vary across Canada and designated trade classifications are subject to change as trades are formally recognized or abolished by the appropriate apprenticeship board. Identifiable trade-specific skills and knowledge within a particular apprenticeship program are set up according to industry standards and government legislation, which are determined by craft unions, provincial and territorial trade jurisdictions (e.g., Quebec), apprenticeship laws and regulations, and approved by the corresponding apprenticeship board. Completion of an apprenticeship program is recognized by government-issued certifications that are commonly referred to as tickets. Skilled trades addressed in this research are industrial and mechanical trades (e.g., boilermaker, insulator, and instrument mechanic) and metal fabricating trades (e.g., sheet metal, welder, and steamfitter-pipefitter). These select trades are typically associated with

Canada's industrial field including crude oil and natural gas construction and petrochemical development.

The process to achieve journey status in a skilled trade, that is, proof of successful completion of a formal apprenticeship program and, ideally, competence in a chosen trade, is carried out through:

> A structured system of supervised training leading to certification in a designated trade, occupation or craft. It is a systematic program of on-the-job training supplemented by in-school instruction in which an apprentice learns the knowledge, skills, tools and materials of the trade, occupation or craft. (CCDA & CLFD, 1996, p. 1)

An apprenticeship is undertaken by a person who enters into a formal apprenticeship program by signing a contractual agreement with both a provincial or territorial government and a sponsor. Upon acceptance into an apprenticeship program, the applicant is an indentured or registered apprentice. Depending on the location, a sponsor can be an employer, industry organization, local apprenticeship committee, or union.

Monitoring of apprentices and the structure, content, and implementation of formal apprenticeship programs is taken on by provinces and territories through governing apprenticeship boards with input from local apprenticeship committees (LACs), provincial apprenticeship committees (PACs) (Apprenticeship and Industry Training, Alberta Learning, 1999), craft unions, and technical and community colleges.

In the process of apprenticeship recruitment, retention, and completion, there is an additional factor: Each trade is identified as *compulsory* or *voluntary* (see page 116,

Table 5, for examples of compulsory and voluntary trades). A compulsory trade is one where there is a government-legislated apprenticeship in place and the person who is working in the trade must be a registered apprentice or a certified journeyperson. In contrast, a voluntary trade, although legislated by government, does not require the apprentice to be indentured nor is it required that the person working within a journeyperson capacity has certification in the particular trade.

Gender differences between compulsory and voluntary construction trades are minimal. Both trade categories are predominantly taken up by men. Although it is difficult to analyze the number of women working in either compulsory or voluntary trades across Canada because each province and territory regulates these criteria (see Table 5, page 116), a tentative generalization can be extracted from statistical data. According to data available from Statistics Canada (2007b), in 2005, 2,035 women (66,675 men) were registered apprentices in the building construction trades, 385 women (20,670 men) were apprenticing in the industrial and related mechanical trades, and in the metal fabricating trades there were 1,325 women (59,045 men) registered as apprentices. Of these three occupational groups, the voluntary designation is more apt to be a criterion for the building construction trades (e.g., carpenter). Based on the percentages of women apprentices in these three examples – 3.0 percent in the building construction trades, 1.8 percent in the industrial and related mechanical trades, and 2.2 percent in the metal fabricating trades – more women are apprenticing in voluntary trades. This initial examination about women apprentices and the comparison of their voluntary and compulsory trade choices requires additional investigation.

Rather than gender defining how construction trades are organized, the differences can be attributed to provincial and territorial politics, the struggles between apprenticeship boards, local and provincial apprenticeship committees, labour groups, non-union organizations, and the history of a particular trade and its status within the skilled trade hierarchy. One of the main issues in the compulsory versus voluntary trade debate is the apparent lack of commitment from employers, especially those associated with voluntary trades, to promote apprenticeship training. If apprentices are indentured in a voluntary trade, there is a marked reduction in apprenticeship completions (Taylor & Watt-Malcolm, 2007).

Augmenting apprenticeship agreements is the Red Seal program, which began in the 1950s whereby provinces and territories developed similar standards for some of the regulated (government sanctioned) trades (Hunter, 1994). Prior to the Red Seal program, people were trained to the trade standards of their originating province or territory, but standards between provinces and territories were not the same; therefore, workers were restricted in their ability to work in other parts of Canada. The Red Seal certification alleviates requirements to continuously recertify as a person moves from one province or territory to the next as long as the receiving location recognizes the Red Seal certification. It is at the discretion of the jurisdictions to offer a trade apprenticeship and, if the program is offered, apprenticeship boards are not required to participate in the Red Seal program.

Table 5 below documents the number of designated trades in each province and territory out of the 49 possible trades identified as Red Seal trades. In this table, I use CCDA's (2007) Red Seal designated trade classifications to illustrate differences

throughout Canada rather than rely on information available from the apprenticeship boards due to variations of identifying, defining, and reporting designated trades. I also include a comparison of select industrial trades to demonstrate consistencies, or lack thereof, in apprenticeship training across Canada and identify whether the trade is compulsory or voluntary in the participating province or territory.

Table 5. Number of 2007 Designated Trades and Comparison of Select Industrial Skilled Trades in Provinces and Territories in Canada, as per the Red Seal Interprovincial Program

Number of 2007 Designated Trades and Comparison of Industrial Skilled Trades in Select Provinces and Territories in Canada as per the Red Seal Interprovincial Program															
Province or Territory	Red Seal trades 2007 Total number	Provincial and territorial participation in Red Seal designated skilled trades (yes or no) and status of trades as compulsory (C) or voluntary (V)													
		Boilermaker		Carpenter		Electrician		Insulator		Ironworker		Steamfitter-pipefitter		Welder	
		Participation yes or no	C or V	Participation yes or no	C or V	Participation yes or no	C or V	Participation yes or no	C or V	Participation yes or no	C or V	Participation yes or no	C or V	Participation yes or no	C or V
Nunavut	30	no	-	yes	-	yes	-	yes	-	no	-	yes	-	yes	-
Northwest Territories	31	no	-	yes	V	yes	C	yes	V	no	-	yes	V	yes	V
Yukon	35	no	-	yes	V	yes	C	yes	V	no	-	yes	V	yes	V
Newfoundland and Labrador	49	yes	V	yes	V	yes	C	yes	V	yes	V	yes	V	yes	V
Prince Edward Island	49	yes	V	yes	V	yes	C	yes	V	yes	V	yes	V	yes	V
Nova Scotia	49	yes	V	yes	V	yes	C	yes	V	yes	V	yes	V	yes	V
New Brunswick	47	yes	V	yes	V	yes	C	yes	V	yes	V	yes	V	yes	V
Quebec	30	yes	C	yes	C	yes	C	yes	C	no	C	yes	C	yes	-
Ontario	45	yes	V	yes	V	yes	C	no	-	yes	V	yes	C	yes	V
Manitoba	38	yes	V	yes	V	yes	V	yes	-	yes	V	yes	C	yes	V
Saskatchewan	40	yes	V	yes	V	yes	C	yes	V	yes	V	yes	V	yes	V
Alberta	45	yes	C	yes	V	yes	C	yes	V	yes	C	yes	C	yes	C
British Columbia	47	yes	V	yes	V	yes	C	yes	V	yes	V	yes	C	yes	V

Source: CCDA, 2007.

As noted in Table 5 above, there are differences between provinces and territories in the number of Red Seal designated trades and the classification of compulsory or voluntary, which highlights localized influences of the economy, labour relations, and government mandates. The Red Seal program is designed to advance mobility of skilled trade workers across provincial and territorial borders because of standardizing curriculum in a designated trade and the corresponding exam that is written by those journeyed people wishing to obtain this certification. Upon achieving a journey ticket, a person is not required to write the Red Seal exam; however, the ticket will be only recognized in the issuing province or territory unless a stand-alone agreement is put in place by provinces or territories. An example is the British Columbia-Alberta Agreement on Trade, Investment and Labour Mobility (British Columbia Ministry of Economic Development, 2006) where government-regulated occupational certifications are recognized by both provinces.

In the next section, I explore industrial skilled trade development and how the apprenticeship process has evolved into an institutionalized system in Canada.

History of Canada's skilled trade development

Stories abound about nation building where new Canadians struggled to make ends meet in this unfamiliar territory. However, there are conspicuous omissions in these stories. Most stories passed down through the generations are about the skilful men who worked day and night to build Canada, especially those men involved in the industrial field. Nonetheless, women and their skills were essential in the nation building process, yet their contributions to Canada's social, political, and economical structures are

typically ignored (Krahn & Lowe, 2002). Women's stories about nation building are not frequently told. I am aware that stories from women's perspectives are scarce in this chapter. From the onset, the industrial field belonged to men.

Immigrants from Ireland, Great Britain, continental Europe, and Scandinavian countries came to Canada from the 1700s onward into the 1800s and 1900s. A significant number of these men were skilled in a variety of trades: Blacksmithing (welding), carpentry, tin smithing (sheet metal), and iron moulding (ironworking). Newly arrived Canadians used their skills to establish infrastructures to ensure survival from the most basic necessities including food, shelter, and clothing as well as to generate incomes in such enterprises as fur trading, lumber, and transportation systems. Since these workers had to direct their energies and skills to eke out a living, they soon discovered it was too difficult to continue the traditional guild system. However, it is notable that the expert-novice model of training apprentices within a hierarchical system was retained (Hardy & Ruddel, 2006). This training model is institutionalized in Canada. The expert-novice concept underpins the current Canadian apprenticeship system and governing provincial and territorial policies.

Industrial development continued in earnest in central Canada during the 1840s when construction owners hired many immigrants to construct a series of canals (MacDowell & Radforth, 2006b). According to Palmer (1992), this construction was the first substantial labour-intensive project in Canada. In the mid 1800s, Nova Scotia residents set up glass factories, clothing manufacturing operations, and shipbuilding enterprises. Towards the end of the 19th century, manufacturing industries were also established in Quebec and Ontario, often by American companies to evade tariff

payments placed on imported goods to Canada. As Canada shifted from an agrarian economy to a manufacturing and industrial society, traditional craft skills declined. In the 1850s, with the introduction of steam engines and changes to metal trades (e.g., boilermaking and steamfitting-pipefitting), the 1830s and 1840s handcrafted manufacturing systems became large mechanized factories. Prior to this industrialized period, craft workers hired apprentices, determined working conditions, and often set their own pay (Krahn & Lowe, 2002). To reduce costs and increase profits, owners and managers changed the organization of craft work by implementing work systems that broke down skilled labourers' responsibilities into simple tasks, a prelude to early 1900s Taylorist and Fordist work arrangements.

Unionization of crafts strengthened during this time (MacDowell & Radforth, 2006a). Fortification of craft labour in Canada was strongly influenced by the United States' union labour movement where national and international bonds were forged. During the 29 years from 1850 to 1879, in Canada, 94 international union locals started with approximately 76 percent of these international locals operating in the province of Ontario. By 1880, 165 local and international Canadian labour groups were founded (Palmer, 1992). One reason for establishing craft-specific unions was to define and preserve skill jurisdictions. Other reasons include the goals to increase wages, reduce hours worked in a day, gate-keeping (e.g., restrict access to non-traditional workers), and protect craft workers: specifically, health and welfare concerns. Three select examples illustrate the pioneering growth and coalescing of skill jurisdictions around the turn of the 19th century, which was accomplished through the North American union movement: Steamfitting-pipefitting, boilermakering, and insulating trades.

In 1889, the *United Association of Journeymen and Apprentices of the Plumbing and Pipe Fitting Industry of the United States and Canada* (UA) (2005) was formed and, as evidenced by their current constitution, retains jurisdiction of the pipefitting and plumbing industry. Within these authoritative boundaries, this trade union is responsible for installing, repairing, and fabricating all associated pipefitting and plumbing components in addition to related supervision of journeyed people, apprentices, and labourers (UA, 2001). The goals of this multi-craft union are to advance member employment security, seek higher pay, monitor and improve work conditions, and ensure high quality of craft skills (Glenbow Museum, n.d.).

Although the skills required of a boilermaker were defined in the early 1800s, the *International Brotherhood of Boilermakers, Iron Ship Builders, Blacksmiths, Forgers and Helpers* (IBB) did not attain official status until 1893. Union formation was built on democracy and the right to organize, with the goals to help members work in a secure and respectful environment, facilitate member participation in union governance, advance members' working conditions and wages, and provide member education and training (IBB, AFL-CIO, 2001). Increased use of steam power in ships and locomotives was instrumental in expanding skill jurisdictions of the boilermaking trade, similar to the steamfitting-pipefitting trade. Industry recognized that boiler designs were more complicated because they needed to withstand higher pressures with smaller tolerances; therefore, specialized craft skills were required to ensure safe boiler construction (International Brotherhood of Boilermakers Archives, 2006).

The use of steam extended into the industrial field, an area not originally under the boilermaker jurisdiction; hence, these trade people transferred skills they used to rivet

ships together to secure steel plates of industrial tanks and stacks. In the mid-1900s, welding replaced riveting as a means to join plates of steel. Boilermaker craft workers ascertained welding's potential for metalworking thus, in the beginning, welding was its own trade. Metal trade workers (e.g., boilermaker and steamfitter-pipefitter) lobbied the American Federation of Labour (AFL) around 1916 to reclassify welding, or, more accurately, categorize the welding torch as a tool, comparable to a hammer, and is now a tool used by numerous metal crafts. Currently, welders are members of, for instance, steamfitter-pipefitter, boilermaker, and ironworker unions.

The *International Association of Heat and Frost Insulators and Asbestos Workers* (IHFI) was established in 1903. Similar to the founding principles of the steamfitting-pipefitting and boilermaking trades, this union's mandate was and continues to promote member employment, uphold member rights, advance members' societal positions, and further members' interests and education (IHFI, 2006). Insulators' scope of work was also influenced by the advent of steam power. Here, energy conservation and people's safety were critical as steam was piped from boilers in homes, business, and factories (Heat & Frost Insulators Union Local 27, 2006). Today, insulators safeguard people and the environment from heat and frost by applying materials and coverings to industrial and commercial pipe systems, equipment, vessels, and tanks (IHFI Local 110, 2006).

These three examples demonstrate the influence of organized labour in the late 1800s and early 1900s on current apprenticeship training through their efforts to identify skills with defined boundaries and subsequent responses to technology. Unions also concentrated on curtailing employers' command of labour processes to regain and retain their occupational power – to (re)enforce and (re)establish skill boundaries. To

accomplish this goal, skilled trade workers initiated strikes and walkouts. There were over 400 construction and manufacturing related strikes recorded between 1901 and 1914 in southern Ontario (Krahn & Lowe, 2002). Succeeding years were fraught with labour unrest as workers sought to ensure eight-hour workdays, acknowledgment of unions, and adequate remuneration for work carried out (Canadian Museum of Civilization Corporation, 2002). Statistics to support this claim are shown below in Table 6.

Table 6. Sample of Strikes and Strikers from 1916 to 1920 in Canada

Sample of Strikes and Strikers from 1916 to 1920 in Canada		
Year	Number of Strikes	Number of Strikers
1916	168	26,971
1917	222	50,327
1918	305	82,573
1919	428	149,309
1920	459	76,624

Source: Canadian Museum of Civilization Corporation, 2002.

Large numbers of workers tried to limit employers' use of non-union labour through strikes and walkouts as noted above in Table 6. Embedded in this observation is a disturbing contradiction. To meet their labour requirements, employers hired non-union, non-traditional workers, that is, workers (men) who were not white, because this labour pool was excluded from unions. Issues around women working as skilled labourers were not a concern because women were not considered to be capable of skilled trade work, union or otherwise – women did not work in the industrial field.

Workers from non-traditional groups such as ethnic minorities did not conform to the union image and were assumed to be unskilled. However, quite a few of these manual workers found work because of Canada's industrial growth, which somewhat undermined

skill jurisdictions because non-union employers hired these people to avoid employing unionized workers. In addition, many foreigners from China and Europe were unable to speak English and, although skilled in a variety of trades – trades similar to the ones described above, were restricted to taking on menial labour in the resource sector: Mining, forestry, railways, and heavy industry (Krahn & Lowe, 2002; MacDowell & Radforth, 2006a).

Unemployment was also experienced by numerous workers in the late 1800s through to the years of the Great Depression, the 1930s. Employers took advantage of this economic decline to decrease wages, remove radical union members, and restructure their organizations to rid themselves of union control, all the while blurring distinctions between different skilled trades. Employers wanted to eliminate, or at least broaden, trade boundaries, to reduce production costs. That is, workers who are specifically trained in a few skills from multiple trades limit the number of employees required thus, ideally, increase employers' profit margins.

Workers with multi-trade skills rather than broad-based training in one trade can multitask according to employers' labour requirements and are a more efficient use of labour. Therefore, unskilled labour trained to perform specific and narrowly defined tasks became a pawn used by capitalists as they introduced management and technology innovations – a phenomenon that is currently happening in Canada (see below). New industrial developments also contributed to skill dilution and changes to the hierarchy of occupations (Palmer, 1992). However, workers who do not have broad knowledge of their trades are often limited in where, when, and how they work.

Between 1910 and 1920, new industries such as rubber, automobiles, hydro-electric power, coal, and chemicals shifted and even replaced old manufacturing businesses (Palmer, 1992). The steel industry, which started in the 1880s, became a significant industry in central and eastern Canada during this time. The early 1900s was also an era when efficiency personnel attempted to standardize tasks through scientific management principles initiated by Fredrick Taylor. Industries that used skilled trades were difficult to organize if they tried to incorporate Taylor's methods, a foundational concept that is apparent in the current industrial field and is particularly exclusionary of women.

Up to the early to mid 20th century, industrial skill trades resembled traditional crafts of the late 1800s, keeping in mind technology adjustments and new trades that emerged because of, for example, the increased use of steam power. With the advent of World War II, remarkable technological advancements were put in place to aid the war effort, which initiated modifications to skill sets associated with traditional trades. Skills were needed to build more technical and complicated mechanical systems, operate specialized equipment and tools, make use of new materials, and implement innovative work processes. Established trades realigned their skill jurisdictions and new skilled trades were developed to meet the needs of the industrial field. It was also during the wars that women were encouraged to enter the skilled trades – an occurrence that seems to happen in times of dire labour shortages. The World Wars present an illustration of the ways in which opportunities opened up for women, a group of people typically considered unsuitable for these skilled trade occupations. This pattern of opening, the

removal of socially constructed boundaries, is usually followed by a reinstatement of the practices associated with social closure.

In the midst of setting skill boundaries and jurisdictions, it became apparent that a formalized training system was needed to ensure quality of skills, proper use of tools, and transfer of knowledge about old and new technologies. As noted previously, the expert-novice training model of the traditional guild system of the UK and Europe was retained even prior to government-legislated apprenticeship programs, and is still evident in present programs. From the onset, unions played a major role in curricula development, in-class teaching and learning techniques and strategies, and on-the-job employer and apprentice guidelines (e.g., journeyperson to apprentice ratio). Designated skilled trade apprenticeship programs, as we know them today, slowly coalesced into an institutionalized system of education and training that is now sanctioned by governments, labour, educators and trainers, employers, employees, and potential trade people.

In the next section, I explore the current apprenticeship system, in particular, training for non-traditional groups, new government policies, and a few issues that are shifting the way apprenticeships and related training are administered, delivered, and valued.

Canada's apprenticeship system in the 21st century

An integral aspect of recognizing skill levels in petroleum and petrochemical industries, as with other construction work, is governed through apprenticeship processes and subsequent attainment of journey level status. The current apprenticeship process in Canada is comprised of 13 systems, one for each province and territory because

apprenticeship training is classified under the education delivery umbrella. The British North America Act (BNA) of 1867 defined particular policy boundaries between federal, provincial, and territorial governments and education is deemed to be the responsibility of provinces and territories (see Chapter 2). The onus is on each Canadian province and territory to legislate, regulate, and monitor its particular apprenticeship process; however, the federal government does influence this training in numerous ways (see page 130). In this section, I briefly investigate current and perceived labour requirements, training initiatives for non-traditional workers, and an overview of recent government funding policies to promote trades as a career of choice and other supports that fall under the federal jurisdiction for Canada's apprenticeship system. I also highlight pressures to change the apprenticeship system such as reducing trade qualifications, reclassification from compulsory to voluntary categories, and reducing apprenticeable trades to smaller training units.

Canada's construction industry is growing at a phenomenal rate and there is a tentative consensus among stakeholders that this rate of growth will continue for another decade. This is especially true in western Canada where the projected development of non-renewable resources is estimated in the billions of dollars, which, in turn, has a profound effect on Canada's economy. In my experience, current employees are able to maintain their employment status or perhaps seek opportunities that align with their career aspirations. Jobs are purportedly available for non-traditional workers such as women, youth, Aboriginals, ethnic minorities, and persons with disabilities.

Skilled labour shortages create a situation where employers who need qualified trades people and unskilled labour are at a disadvantage in that they may not have the

labour to meet their contractual obligations. Further complicating the current issue of skill shortages is the prediction that by 2020 there will be a shortage of one million workers because the population is ageing and there are fewer births (Skilled Trades, n.d.). Labour shortages, in some trades, continue despite political actions by means of government and corporate policies to encourage non-traditional workers (e.g., women, Aboriginals, and youth) to consider trades as a career (see below), past and present market demands for more skilled trade workers, and women-only pre-apprenticeship training programs designed to introduce skills and knowledge to prepare women for careers in the skilled trades (see Chapter 7).

Despite promising employment forecasts, there is a caution that coincides with these present and anticipated labour shortages that needs to be articulated. The construction industry is cyclical with periods of high labour demands followed by declines in labour requirements. Even though there may be a demand for labour, not all trades will need additional personnel; in fact, there may be a surplus of skilled labour in a particular trade. Notwithstanding the uncertainties inherent in the industrial labour market, governments have a stake in ensuring there are adequate numbers of employable people to meet employers' labour needs. Not only do governments have a vested interest in the labour market, construction associations, contractors, labour organizations, trade unions, employees, and potential workers are also concerned about labour requirements. Through the combined efforts of these stakeholders, training programs, especially for non-traditional labour groups (e.g., women, Aboriginals, and youth), are seen as one approach to help meet employers' labour requirements.

Programs and initiatives to encourage women to consider skilled trades as an occupation are offered by governments, technical institutes, private training delivery agents, and not-for-profit organizations. To illustrate, the Yukon College delivers the *Women in Trades and Technology* program and, in Alberta, the *Journeywomen Start* program is developed and presented by Women Building Futures. Manitoba Women's Directorate sponsors the *Trade Up* program. Other sponsors of this program include Manitoba Education and Training, Employment and Training Services Branch, and the Gateway Group (Canadian Council on Learning, 2006).

In Ontario, the *Women in Skilled Trades* program is delivered by the college system and is managed by the Ontario Women's Directorate and the Newfoundland and Labrador's Women in Resource Development Committee offers the *Orientation to Trades and Technology* program (Canadian Council on Learning, 2006). Other programs that are available for women interested in learning and working in the skilled trades are the British Columbia Institute of Technology's (BCIT) *Trades Discovery for Women* program (BCIT, n.d.) and the Northwest Territories' Status of Women Canada's *Northern Women in Mining, Oil and Gas program* (Status of Women Canada, Northwest Territories, n.d.). I elaborate training initiatives for women in Chapter 7.

Initiatives to promote apprenticeable trades as possible careers to people living in Aboriginal communities are offered by provinces: for example, Alberta, British Columbia, Manitoba, Ontario, and Saskatchewan (Careers in Construction, n.d.). Another group promoting trades careers to Aboriginal people is the Aboriginal Human Resources Development Council of Canada (AHRDCC), which is sponsored by the federal Sector Council Program. AHRDCC promotes partnerships to advance inclusive employment

opportunities for Aboriginal people and to provide employers with skilled labour (AHRDCC, 2007).

High school apprenticeship programs are designed to introduce skilled trades to youth interested in pursuing a trade. Typically, a student enters into a formal agreement with an employer or sponsor and the provincial or territorial government to earn hours towards his/her apprenticeship while earning credits for the high school diploma. Age, grades, and attendance criteria are in place for most of the secondary apprenticeship programs. Throughout Canada, provinces and territories have implemented school to work programs in their high schools (Taylor, 2007); for example, Alberta's Apprenticeship and Industry Training has and continues to promote its *Registered Apprenticeship Program* (RAP) to high school students (Alberta Government, 2006). Similarly, Nunavut, has developed the *Nunavut Early Apprenticeship Training* (NEAT) program (Nunavut Department of Education, 2007) for their secondary students and Manitoba's *Senior Years Apprenticeship Option* program (SYAO) is one way for high school youth to gain high school credits and apprentice in one of the designated trades (Manitoba Competitiveness, Training and Trade, 2007).

Numerous programs for non-traditional groups have emerged in the past two or three years and the programs that have existed prior to the *boom* have garnered some corporate and government support in response to the outcry for more skilled labour. Similarly, governments have recently put in place policies to make trades more attractive to people as a possible career choice. Policies to promote, sponsor, and encourage recruitment and retention in the skilled trades has increased; however, federal support through, for example, the Employment Insurance (EI) program, which pays qualifying

apprentices while they attend their technical trade training, is not new. More recent policy initiatives by the federal government include Apprenticeship Incentive Grant (January, 2007), Apprenticeship Job Creation Tax Credit (May, 2006), and the Tradeperson's Tools Deduction (May, 2006) (Human Resources and Social Development Canada (HRSDC), 2007).

Briefly, an Apprenticeship Incentive Grant of 1,000 dollars is available to indentured apprentices upon completion of their first-year or second-year apprenticeship or equivalent. Qualifying apprentices must be registered in one of the Red Seal designated trades. The Apprenticeship Job Creation Tax Credit is for employers who hire registered first-year or second-year apprentices in a Red Seal trade. Employers can receive a tax credit up to 10 percent to a maximum of 2,000 dollars per year of the employee's wages. Lastly, the Tradeperson's Tools Deduction is for skilled trade workers. These people are eligible for an annual tool tax deduction up to 500 dollars for the purchase of new tools (HRSDC, 2007).

In addition to direct federal funding initiatives, sector councils such as the Canadian Apprenticeship Forum (2007) and the Construction Sector Council (2006) are promoting trades as a viable career through, for example, promotional campaigns. These organizations, as noted in Chapter 4, are supported by the federal Sector Council Program. Provincial governments are also committed to promoting skilled trades as a career to potential workers and have used similar tactics to advance the trades as a worthy career (e.g., advertising campaigns).

Despite policies, initiatives, and programs to promote trades as a possible career for women, Aboriginal people, and youth as well as grants for apprentices and employers,

there are numerous tensions among the various stakeholders. I highlight a few issues and concerns here. The purpose in bringing forward these tensions is to clearly show how the industrial field was, and continues to be, a location of competing interests, fraught with conflicts, and intense beliefs about what are the best ways to develop skilful and knowledgeable trade workers.

Similar to the labour relation conflicts of the late 1800s through to the mid to late 1900s documented earlier in this chapter and Chapter 4, unions continue to fight for workers' rights, health, and safe work conditions as well as the growth and maintenance of quality apprenticeship training. Pressures from corporations, open-shop organizations, and employer-friendly unions, and some would say governments, are undermining these efforts (Alberta Federation of Labour, 2003). Part of the conflict is the push to reduce the qualifications needed to meet trade certification requirements, essentially, taking the least stringent qualification and making that the standard across the country. Another aspect of these tensions is the demand to change the classification of a trade from compulsory to voluntary, which allows a person who is not a registered apprentice or a ticketed journeyperson to be hired in a particular trade (Open Mind, 2006).

Lastly, pressures by industry, in particular, employers, to divide trades into smaller training units are on the rise. For example, British Columbia (BC) dismantled their apprenticeship training program and the supporting policies in favour of implementing an industry-led apprenticeship system. Within this framework, trade skill training is offered in modules unlike other provinces' approach to offer broad-based training whereby the modules for a particular trade are delivered over three or four apprenticeship terms (e.g., Alberta).

The BC apprenticeship training system has made it possible for trainees (no longer called apprentices) to select individual training modules to gain credentials to show competency in a specific skill. A review of this process for apprenticeship training reveals that: a) apprenticeship completion rates have dropped dramatically, b) technical institutes cannot plan for training, c) alternative training delivery agents are developing partnerships to offer piecemeal training, d) apprentices are required to report their progress to Industry Training Authority (ITA) – a process apprentices find difficult to perform, and e) employers' contractual obligations to apprentices are virtually non-existent (Sinclair & Peppard, 2006). This apprenticeship approach is under review and there are indications that the system may be revised to reflect a more broad-based training approach rather than isolated training units.

As evidenced by these concerns, the industrial field is a contested location. Many stakeholders tend to lobby for those interests that will, ideally, increase profits and advance market share. D. Smith (1999) comments:

> A sphere of work and inquiry is created with its own internal logic, its agreed upon objects and categories, its recognized authorities and referents. These constitute the political economy; and object world is created which members of the discourse have in common; the actualities of social, economic, and political process are interpreted through this prism. (p. 36)

In the industrial field, the political economy and its objects are produced by men. Some stakeholders are struggling to retain skill jurisdictions and the masculinized nature of skilled trade work; however, these boundaries are reallocated when non-traditional workers are required to meet labour demands generated by the economy. Stakeholders,

such as labour groups, non-union organizations, and governments have the clout to change policy – policy that shifts skill jurisdictions and, indirectly, the masculinized workplace. Yet, as D. Smith (1999) observes, these stakeholders view changes through a prism of masculinized traditions. They have a shared history and it is a history where women are not usually present.

Conclusion

Canada's skill trades are the result of economic, political, and social dynamics. From the beginning when immigrants brought their crafts to Canada to the formation of skill sets and defined union trade jurisdictions, the Canadian apprenticeship system has become an institutionalized training process. Stakeholders in this process, the federal, provincial, and territorial governments, corporations, owners, unions, non-union associations, employers, trainers and educators, employees, and potential employees have contributed to the present system. It is the intersection between these stakeholders and the resulting structures and institutionalized mechanisms that help shape the industrial field and how workers exemplify a particular masculinized habitus.

In the next chapter, I expand notions around habitus and the industrial field and analyze related themes that emerged from my interviews with the participants of this study.

CHAPTER SIX

PERSPECTIVES FROM THE FIELD: FINDINGS AND DISCUSSION

In the preceding chapters, I outline my conceptual framework and research methodology. I also examine Canada's industrial field and the skilled trades within the framework of Bourdieu's field, one of his conceptual tools. Here, I present research findings derived from my thematic analysis of the interview data. This analysis focuses on the research participants' views and experiences about industrial work, jobsites, worker habitus, policies, skills, and what it takes to be a skilled trade worker.

I examine these research data, the participants' stories about their experiences, with particular attention to how ideas around gender within classed workspaces and work contribute to the maintenance of boundaries that continue to make the industrial field an unwelcoming space for women, despite policies and initiatives designed to promote equity. The boundaries women encounter in the industrial field are reinforced and enacted by the habitus. Bourdieu (2001) further suggests that women are in a "double bind" (p. 67). On one hand, if women work like men, they, first, lose their femininity and the related attributes and, second, challenge accepted power positions of men. On the other hand, if women act like women, they are considered inept and incapable of performing the work.

Throughout this research analysis, I explore the notion that femininities and masculinities are socially constructed within a classed system (D. Smith, 1993; Skeggs, 1997). To reiterate, the intent of this analysis is not to develop generalizations about or from the people who were interviewed; rather, the purpose of this analysis is to expose

and articulate "social processes that have generalizing effects" (DeVault & McCoy, 2002, p. 753).

To introduce this analysis, I draw attention to the industrial field and worker's habitus. The industrial field is a product of traditions, assumptions, and patterns of activities. In some areas, the current structure of the industrial field is hardly distinguishable from the early to mid 1900's (see Chapter 4); whereas, in other ways, and even within the same workplace, actions and attitudes are seemingly more reflective of progressive thinking around equity, quality training and education, safety and health, and human resource management guidelines. Some of the official standards established are labour legislation, non-discriminatory hiring practices, employer regulations, apprenticeship training, and pre-apprenticeship training funded by governments and some private sector organizations.

Despite these policies and the appearance of equity at social and political levels, an undercurrent of resistance exists unless the adherence to policies aligns with industrial stakeholders' goals. These actions bring to the forefront locations of resistance – points of opposition to changing the status quo that are played out by the stakeholders in different ways. However, as introduced in this chapter and elaborated in Chapter 7, when training programs, with or without sustained policy support, are designed and implemented with attention to the organizational and occupational cultures of the industrial field, there is a potential for women to learn techniques to manage and even challenge these locations of resistance.

I first present a summary of the research findings. I then analyze the five main themes from my data analysis: a) industrial field and working class masculinized habitus

(including official standards, hidden criteria, and language and the body), b) women are a backup labour pool, c) making it work in the industrial field, d) treating women and men the same…or not, and e) policies as ineffective recruitment and retention mechanisms. These sections are followed by the conclusion.

Summary of findings

There is one overriding factor that I observed in the interview data that guides my subsequent findings: Interactions in the workplace are conducted in an historical context – this is the way it has always been done. Some traditions are upheld through stories. Stories from the past about the struggles, hardships, incredible successes, and heart-wrenching disappointments are still told today – "of fortunes gained in a flash and lost just as quickly, of tough-spirited pioneers willing to gamble on a dream" (May, 1998, p. 95). Just as it was fifty years ago, stories are typically told orally while "chewing the fat" after a hard day's work, some of which the research participants shared with me during our interviews.

In addition to stories that (re)produce the habitus, traditions are also maintained by owner, contractor, and government sanctioned policies. These policies help uphold organizational and occupational structures. Of particular interest to this research are: a) policies and structures that perpetuate the organization of work (see Chapters 4 & 5), and b) traditions and accepted (expected) norms that still exist in the industrial field. To this end, the participants took the opportunity to speak of past and present concerns about the industrial field, habitus, apprenticeship training and related policies, and women as

skilled trade workers. Many ideas and suggestions emerged from these conversations, which I have organized into five key themes:

1. *Industrial field and working class masculinized habitus:* Organization of work (projects and jobsites) is similar to that of the early to mid 1900s. Official standards and hidden criteria continue to structure organizational and occupational cultures and reproduce a masculinized working class habitus. Particular classed and gendered verbal and body languages are used to maintain and perpetuate the habitus.
2. *Women are a backup labour pool:* Hiring and recruitment practices by industrial owners, contractors, and unions are suspect because there seems to be an aversion to bringing on non-traditional workers, except in times of labour shortages.
3. *Making it work in the industrial field:* Women who decide to be skilled trade workers are attracted to this work for the same reasons as men. Yet, these women are more likely to encounter resistance to their presence. These women find ways to manage these oppositions in three principal ways – ignore, accept, or challenge.
4. *Treating women and men the same...or not:* There are different views from industrial stakeholders about how women should be treated in the field.
5. *Policies are ineffective recruitment and retention mechanisms:* Social, labour, and vocational education and training policies do not consider organizational and occupational cultures of the industrial field. I introduce this theme here, and develop it further in Chapter 7, where I analyze three training programs

that, with or without sustained policy support, are models that have the potential to inform training policy.

It will become apparent throughout this discussion that these themes are interconnected and cannot be isolated in their entirety. Hence, I take advantage of these overlaps to examine the themes in and across these thematic categories from the different perspectives of the participants and the literature.

This study supports related scholarly research; however, three findings extend this work. First, locations of resistance are embedded in official standards and hidden criteria of habitus. Women tend to use three strategies to counter locations of resistance – ignore, accept, or challenge. Second, a position taken by employers, employees, training providers, and government representatives is that past and present policies are ineffective recruitment and retention mechanisms, especially policies designed to promote quality training for women. Third, well-designed training programs introducing women to the skills and knowledge of trade work inform future training policy development and implementation (see Chapter 7).

I elaborate my findings in the following sections keeping in mind Bourdieu's edict to take up his theoretical tools – to "put them in motion and to make them *work*" (Bourdieu & Wacquant, 1992, p. 228, *italics in original*). Therefore, in my analysis, I examine the ways Bourdieu's theoretical concepts inform this research and use them, in conjunction with select scholarly writings and research, to analyze the research themes.

Industrial field and working class masculinized habitus

Schmidt (1989) succinctly sums up the mid-1900s' workplace culture: "Few outsiders could understand the psychology of oilfield crews and their capacity for whisky, which was bottomless. They could always depend on working hard the next tour [the following 12 hour work day] to sweat it out of them" (p. 15). Cashman (1981) affirms camp life was considered jail and the only way to succeed was to "Get in, get at it, and get the hell out" (p. 207). The mid-1900s workplace still exists today. There is an atmosphere of "work hard, play hard." Employees work long hours, often in remote locations in unsavory weather conditions, and if they work camp jobs, camps are still considered jails. These workplaces abound with tough people with even tougher attitudes who resist change in the organization of work and corresponding work practices. Dellinger (2002) broadly categorizes these practices as occupational and organizational cultures. Occupational culture takes into account the values, customs, and peculiarities of a person's job; whereas, organizational culture refers to the place or location a person does his/her job. These cultures help define how workers adopt a particular habitus and learn to understand the nuances of capital.

Bourdieu (1984) contends that there are official standards with hidden criteria that workers learn during their indoctrination to habitus. In the following sections, I analyze how these standards and criteria are taken up by industrial workers as conveyed by the participants' comments and related scholarly literature.

Official standards. Bourdieu (1984) suggests there are official standards that "serve as a mask for hidden criteria" (p. 102). In Chapters 4 and 5, I describe many of the

official standards that are institutionalized in the industrial field. As noted in these chapters, an integral element in the organization of industrial work is the hierarchy of the occupational roles on a construction project. In descending order of authority and often in the rate of pay are construction manager, project manager, construction superintendent, general foreman/woman, foreman/woman, lead hand, journeyman/woman, apprentice, "green" or novice helper, and labourer. There are nuances of authority between owners, contractors, and sub-contractors as well as internal company positions. Other factors shaping the industrial field include competitiveness between similar trade companies; pre-defined bidding, award, and work procedures and processes; and overt and covert union and non-union tensions.

There is also an established hierarchy of industrial labour between skilled trades, that is, which trades are valued over others. Some trades are perceived by industry to have more symbolic capital because they are considered to take more skill and knowledge to perform the jobs. For example, in my experience, steamfitting-pipefitting, welding, and electrical have garnered more symbolic capital than insulating and carpentry. In addition to the amount and type of skills and knowledge involved in a particular trade, skilled trades with more symbolic capital tend to be compulsory in Canada, that is, work must be performed by a registered apprentice or certified journeyperson. Compulsory trades also tend to be classified as Red Seal trades (e.g., steamfitting-pipefitting, boilermaking, and electrical). Even though the less-valued trades, trades with less symbolic capital, are Red Seal, they fall under the voluntary category (e.g., carpentry and insulating) (see Chapter 5 for an explanation of compulsory, voluntary, and Red Seal trades).

A skilled trade encompasses specific skills and knowledge with boundaries established by industry standards, which are determined by historical union jurisdictions and/or divisions of apprenticeship sanctioned by government laws and regulations (see Chapter 5). Historically, numerous employees learned on the job, with little or no formal training. In the past 10 or 15 years, however, it is my experience that credentials verifying a specific skill set are used more often as a hiring tool and, perhaps, as a way to restrict entry into certain parts of the construction industry. Levels of skill proficiency are gauged by skilled trade tickets obtained through provincial apprenticeship programs; safety qualifications; and leadership and management certifications. University degrees are viewed with suspicion by many skilled trade people because these degree holders typically have not worked "in the trenches" and obtained valuable and recognizable trade skills.

In the industrial field, official standards or criteria help determine a person's capital and legitimacy. Examples of capital include an individual's position in the occupational hierarchy (which jobs are valued), who has access and who does not have access the jobs and to training, the status of the worker – his or her job within an organization, the skills of the worker, the tools a person is proficient at using, the projects a person has worked on, and the network or contacts a worker has access to.

Another institutionalized standard is how employers manage their recruitment and retention processes. Employers take the "I don't need anybody today, call me back

tomorrow…It's the nature of the industry" (I-7, Training Provider, p. 8)[4] approach to managing their labour force. They hire and lay off as needed because the industry is project-based, cyclical and, as noted by a journeyperson, there are no guarantees of employment (I-6). In support, Schmidt (1989) draws attention to the boom and bust cycles this field undergoes. This organization of work contributes to and aids in the construction of the masculinized nature of the work. Work and living conditions are described by an employer: "it depends where you go…miles from nowhere and you're in a bush camp, yeah, you're going to get the rough and tough. No matter how cozy you think you can make it, you can't" (I-13, p. 18); after all, it is the oil industry. Reinforcing the idea that it is "the oil industry," a journeyed employee is of the opinion that the industrial field is unchangeable because it is "an old culture" (I-6, p. 16).

An element that also influences the organization of the field, according to Dulipovici (2003), is that many people continue to consider skilled trade occupations as seasonal, unappealing, and transitory work. An educator describes the industrial field as a transitory system where workers typically move from job to job (I-11). Due to the physical work and often isolated project locations, men were/are seen as the ones to handle a life that requires a "level of toughness to manage it" (I-5, Educator, p. 16). Potential workers are deterred by the thought of working in remote locations in extreme weather with adverse working conditions. There is also the perception that lateral or vertical job opportunities are limited in the trades. The hours and days worked make it

[4] Interviews with research participants are identified as follows: Interview number (e.g., I-7), Participant (e.g., Training Provider, Apprentice, Journeyperson, Employer, Educator, or Government Representative), and Page number (e.g., p. 18).

difficult to negotiate one's social and home life, not to mention the workplace dynamics. I can wholeheartedly declare that the rhythm of industrial work make it virtually impossible to have a *normal* life; albeit, the organization of work in numerous occupations make it difficult have a normal life (e.g., nursing).

Project-based work that often occurs out of town sets up an organization of work that accommodates a select group of people – people who are ready to travel at a moment's notice to the jobsite to work at least 10 hours per day and realize they could be at this worksite for many days before returning to their home locations. The length of the shift depends on project schedules as well as government regulations. For example, in Alberta, the maximum consecutive days worked is 24 unless a permit to extend the shift is issued by the government. This "be ready when we call you" work environment precludes many capable and willing workers. People who have family obligations are apt to be excluded because they cannot work the long hours and consecutive workdays, even if the jobs are in town. Daycare and work hours/days (e.g., weekend work) are not coordinated, which prevents many women from participating in this workforce because of their familial responsibilities. Work located in inaccessible areas eliminates individuals who do not have their own transportation. Public transit is usually not an option since routes do not extend to new construction zones or industrial sites.

An employer states that placing women in remote locations is seen as a costly encumbrance because an employer cannot send a woman and a man out to a job and expect them to stay together in a motel (I-4). A common industry practice is to have two people share a motel room to reduce project costs. Rather than send women to jobs with

motel accommodations, another employer believes camp jobs make it more favourable to hire women for their projects, specifically:

> [S]ometimes you can get on very remote locations where it may be that everyone's staying in town at a motel and that kind of stuff and there's only one in town. That can sometimes raise concerns; whereas, if…you have a camp type setting where an environment is quite a bit more controlled after work hours you know it takes a little bit of the, I think, a little bit of the pressure off maybe….the camps are just set up to make allowances to keep folks separate. (I-3, p. 8)

In this excerpt, gender and the underlying assumption that it is necessary to control workers after their paid work obligations is apparent. In my experience, separating women from men might protect women from sexual harassment; however, it is possible that keeping women and men apart helps employers avoid potential problems. The idea that women and men working together should be controlled and monitored after work hours also brings us back to gender relations and how women and men manage their relationships at work and in the private realm. I elaborate this aspect below.

Once on the jobsite, a person's skill and knowledge competencies are assessed by his or her apprenticeship or journey status and proficiency in hand and power tools, awareness of materials required to perform particular tasks, and knowledge of how, when, and where to use tools and materials. The value of skill as capital cannot be underestimated, yet, skill is an elusive concept. Skill is not an objective and fixed entity – what is valued as skill is in a state of flux. Nonetheless, there is one unvarying element underscoring the value of skill: The notion of skill continues to be built on a discourse

developed by men (see Chapter 5). Kincheloe (1999) maintains that if women work in an industry, the related skills are devalued. Therefore,

> [T]he male attempt to exclude women from the workplace was not simply a matter of men thinking that women were not capable of performing a job skillfully; rather, it was more an attempt to protect their craft's integrity from the devaluation caused by women's involvement with the work skills in question. (Kincheloe, p. 275)

From this perspective, it makes sense for men to limit women's access to the skilled trades. Gaskell (1992) confirms women's lack of access to vocational training and craft occupations is a result of institutionalized social process. She further states: "Privileged male workers fight to maintain their skilled status and do it through collective organization even when their technical expertise no longer has a place in the work processes" (Gaskell, p. 118). However, many of my research participants, both women and men, believe women have the attitudes and ability necessary to learn trade skills that make it possible for them to succeed in these occupations.

In a short period of time, new workers to this industry gain knowledge of the *rules*. In the process of understanding and adhering to the rules, the workplace culture continues to perpetuate what is expected and what is not. After a while, when people become acculturated to the field, they tend not to challenge these taken-for-granted masculinized workplaces. In my experience, individuals' acceptance of the workplace habitus, attitudes, actions, and behaviours typified by many of the male workers, perpetuates the entrenched belief that the industrial field is unchangeable. Despite this observation, a government representative mentions that even though "it's taken for

granted that the trades have been male-dominated, that's the way it's been and that's the way it's going to work" (I-9, p. 12), there are proactive initiatives that are changing the workplace culture.

Social interactions, both the unspoken and the readily apparent, are produced by stakeholders. It is the day-to-day interactions and transmission of the occupation habitus through stories that help maintain the industrial field's organization of work. From these stories, norms are established. For example, a woman apprentice explains her ideas about women working with men on industrial jobsites:

> You kind of have to have a thick skin to go into this field because the guys, they are going to be guys. And that sounded horrible…it's being gender specific. I try not to be but sometimes it happens because you know boys will be boys. And for hundreds of years this has been their work and now it's women coming in. (I-14, p. 7)

A fundamental idea that builds on this apprentice's assertion is that newcomers are subjected to something I will call a "rite of passage." The newcomer (i.e., helper or labourer) is often assigned the "dirty work," not only because the person is unskilled, but as an initiation into the trade. It is an unspoken custom that newcomers do the undesirable work because those who have gone before had to do it to prove their seriousness and dedication to the trade. Basically, seasoned workers are establishing the ground rules. They want to know that a person "can take it": Does the new hire have the wherewithal and stamina to do the work?

The tradition to initiate new workers often causes great distress for new hires, especially women, who believe they are being singled out and treated unfairly. Riemer

(1979) also contends that this learning is not usually conducted in a friendly environment or one of congenial relations. The newcomer is "often criticized and made to feel incompetent….He [sic] learns when to work, how to do the work, and how much work to do; and, in effect, he learns the culture of his chosen trade" (Riemer, p. 36). This treatment is unfair but, unfortunately, according to a journeyperson, "you're not going to change the environment you work in, it's the environment" (I-6, p. 16). Some would suggest that these activities are also a way to push people out, especially women who are not socialized to this work environment.

According to Bourdieu (1984), a key element that maintains the official standards are the hidden criteria (e.g., gender). In the next section, I draw on my research participants' views of these criteria and juxtapose these experiences with related scholarly literature.

Hidden criteria. One aspect of hidden criteria is gender. Kincheloe (1999) contends that women's career advancement is hindered as a result of the gendered organization of work. In promoting an awareness of traditional roles assigned to women and men and how these positions are still prevalent in today's organizational structures, Witz and Savage (1992) declare that it is crucial to examine gender relations as a part of workplaces rather than categorical principles that are added to these locations. To this end, gender is played out daily in the typical workplace due to deeply entrenched social norms, and often without question (Davis, 1992; Morgan, 1998). Bourdieu's (2001) view of gender as a secondary principle that shapes the various fields support Witz and Savage's view. McCall (1992) also concurs that gender is not a field, but is an integral

part of people's lives. Furthermore, McCall maintains that even though gender is not considered a category of capital, legitimacy in certain workplaces is hugely influenced by a person's identifiable gender.

Canadians depend on the industrial field for its numerous products, the work involved to design, construct and maintain these facilities, but the work involved seems to be only understood by those people, notably men, who work in this industry. In our society, it is acceptable for men to have the skills and knowledge required for skilled trade occupations. Men have access to a particular set of knowledge because they are encouraged as children to play with various toys and engage in activities that foster mechanical aptitude, spatial thinking, and hand skills (cf. Freeman, 2007).

Women were/are not encouraged to enter into these masculinized work spaces because their opportunities to develop pertinent skill sets was/is minimal. Pringle and Winning (1998) support my assertion. Women generally do not have the fundamental skills and, consequently, do not have the confidence "to 'don' with conviction the most basic of carpenter's tool – the nail bag" (Pringle & Winning, p. 221). Occupational niching by gender stems from childhood socialization practices (McKinnon & Ahola-Sidaway, 1995). There is a message that comes through these observations: The industrial field is strange territory for most people, particularly for women.

Additionally, in Canada, there are people who strongly believe that women do not belong on these jobsites. During my interview with an employer, he describes this situation in the following way:

> Look at who runs these jobsites. They're all the baby boomers. They're all the old guys. You know I would say most of them anyway, I won't say them all because

> there is some young guys…but there are a lot old guys like us and maybe I'm one that doesn't have these archaic ideas, but there's a hell of a lot of people out there that just believe that a woman should be at home. (I-13, p. 13)

As illustrated by this employer, the industrial field is filled with preconceived notions about who belongs and who does not. Further support is presented by a training provider who shares a comment made by an employer to her: "[M]y crew are a bunch of pigs, I'd never put a woman on this jobsite" (I-7, p. 8). An explanation of gendered workplace tensions is offered by Connell (1995), who notes that workplace relationships are formed around differences that "exclude and include, that intimidate, exploit" (p. 37). Further, exclusion and inclusion of people based on identifiable and categorical characteristics, particularly gender, are embedded in the industrial work culture – a predominantly white heterosexual and masculinized space. Employers, owners, and unions tend to protect particular workers. My own experiences confirm this observation. Specifically, union and non-union employers are constructed by a particular habitus. Employers appear to champion all workers, but under examination what I find is that they are catering to particular workers who tend to be white men unless women as a source of labour are required (e.g., women workers during World War II, see page 16).

Workers (men on the whole perform skilled trade tasks) employed in the industrial field form allegiances, which tend to exclude workers who do not conform to the norm. Tilly (1998) suggests that access to jobsites and correspondingly skilled trade work is controlled from the recruitment process through to the wages offered, task allocation, and training and promotion opportunities. Lave and Wenger (1991) contend that these boundaries control the selection and access of entrants – a notion that is

essential to maintain a community of practice and make it possible for field members to manipulate how newcomers gain legitimate participation.

Data from my study corroborates Lave and Wenger's (1991) theory that legitimate membership in a field or community of practice is determined by acceptance of the workplace habitus. For the industrial field, part of the practice is a persona that embodies a *rough and tough* construction image. Even if workers do not agree to the dominant criteria of what is deemed as capital in the industrial field or what it means to be a legitimate worker, once they agree, in some form or another, they become a part of the system or game. However, as Colley (2003) suggests, workers have the means to change the game rules through their choices and often execute these options to further personal goals.

To preserve this masculinized work space workers have put in place mechanisms, essentially, gate keeping functions, to deter people who do not conform to the norm. For example, an employer emphasizes that women may not enjoy working in this sector (I-13) and, similarly, another employer wonders whether women are really interested in this type of work (I-12). There are questions that surface at this juncture for me: Are women not interested in industrial work? Do women want to work in this field? Do women avoid industrial work because they are not willing to endure an uncomfortable work space, a space that is obviously not receptive to women workers? Whittock (2000) offers one response. She asserts most contractors and their employees perceive their jobs as work that men do and they question why women would want to work in an environment that is so physical, dirty, and dangerous. Dirty and physically challenging work and, of course, work that is often dangerous is a cornerstone of a working class masculinized habitus.

Moreover, the male workers in Whittock's mid 1990's study do not believe that women can do the work.

In addition to whether women can actually do the work, a journeyperson is curious why companies would even consider employing women in their child-bearing years. She wonders why companies hire women given the time and money they invest in training these workers "to be productive, efficient employees and then they have children and quit. It's got to be disheartening….the company I work for is struggling with it" (I-1, p. 13). From the employers' perspectives and in my experience, the domestic attachment associated with women cannot be ignored and, as a result, many women who work in the industrial field tend to be placed, if possible, in major urban centres with somewhat defined work schedules to accommodate their homecare responsibilities. Men working as skilled trade workers do not encounter a similar reaction from employers, yet some men are fathers. Similarly, women are often bypassed in the hiring process because of family duties; whereas, men are not.

The nature of industrial work is also influenced and reinforced by attitudes, behaviours, and actions of family, friends, and school personnel. To illustrate, an apprentice retells a story about her male friend who stated:

> I'm the one. I'm the man and I go away to do the work. What do you mean you're going away to work for a couple of weeks? You stay home with the kids…no, you're supposed to stay home with the kids. What are you doing? You don't go out and work. I mean yes you can go work as a secretary. You can go work at a supermarket...but you want to go out and work [in a skilled trade]?...who's going to cook supper? (I-14, p. 17)

This point of view exposes attitudes reminiscent of those discussed by authors who have addressed ongoing problems women face when they attempt to enter occupational fields that typically employ men (see Chapter 2). Friedan (1997) offers a related viewpoint, which she refers to as "woman's role crisis":

> It has been blamed on the education which made…girls grow up feeling free and equal to boys…testing and discovering their own powers in the world. All this gave girls the feeling they could be and do whatever they wanted to, with the same freedom as boys...It did not prepare them for their role as women. The crisis comes when they are forced to adjust to this role. (p. 75)

Friedan (1997) originally wrote this excerpt in 1963 and my dad told me in the 1970s that I could do anything. Similar to Friedan's view, I encountered people who did not agree that I could be anyone or do whatever I wanted. I will illustrate with an example. I was pigeon-holed by my gender when I arrived in the field. Although it is not unusual for *green* helpers to be assigned to clean up after the journeyed workers as noted above and haul material to different locations throughout the jobsite, for my first job on the tools, I picked garbage and did paper work tasks for a long time. But for my next job, I had a different foreman who had the same philosophy as my dad. Men can make a difference. They have the power to open up spaces for women. Essentially, these men created an environment that encouraged me to acquire the knowledge and skills of the trade. I was treated as a capable worker – allowed to be who I was and to do the work that I was hired to do. In hindsight, I realize these men had philosophies ahead of their time, attitudes that believed in equal rights for all people and that gender was not indicative of a person's capabilities.

Similar to my research findings, Glasgow (1982) observes that family and friends influence a woman's decision to work in the skilled trades. Familial attitudes about gender are powerful determinants of how a woman manages her career path. Glasgow suggests it is more likely for women in non-traditional fields to be subjected to added opposition from significant people in their lives than the women in traditional careers. Part of the reason, according to many of my research participants, is that trades are not seen as acceptable or high-status occupations. An educator contends that, historically, it is family members who go into their trade because most of them have been acculturated to the work cycle and nature of work at a young age (I-11). It is also family or other people who encourage, or perhaps more realistically goad, women into trying trade work. An educator's female student declared: "I want to weld…because my father said I could not do that" (I-2, p. 7). I find it intriguing that this young woman's experience is opposite to mine. As I stated previously, my dad believed that I could be and do whatever I wanted. What is interesting to me is that both of us ended up in similar careers.

Besides family, school counsellors have the potential to influence how young people enter into the workforce. Yet, there are conflicting views as to the extent of these people's influences. Glasgow (1982) notes that school counsellors do not have a direct influence on the occupational choices of the women in her study. These women are skilled trade workers as well as workers in more traditional occupations typically associated with women (e.g., medical and X-ray laboratory technology, secretarial, and hair-styling). In contrast, my research participants talked about the powerful influences that school staff have on young people's transitions into the workforce. For example, over half of my participants commented that their school counsellors did not present

skilled trades as a career option to them. An employer testifies that when he went to high school, trades were not a career option; rather, it was the academic route that was promoted (I-3). He maintains that this is the reason for the skilled labour shortages today.

This trend is changing. Junior high and high schools are introducing skilled trades to their students with the help of organizations such as Skills Canada (2003), a national non-profit organization that enthusiastically advances the skilled trades and technologies to young people in Canada. Nonetheless, an employer declares that even with all the media promotions and funding initiatives, "we're not reaching the women to make them aware that there are all these opportunities out there and they are more than capable of doing them" (I-4, p. 4).

In my experience, there are few women who are attracted to the field for all the reasons previously listed. Women and men are socialized to believe that there are certain occupations that are not appropriate for women. These gendered stereotypes produce stereotypical actions that continue to devalue women's skills and capabilities, while at the same time enhancing men's political positions. Further, McDowell (2003) declares that men and their work have cultivated the notion that masculinities are "collective social practices" (p. 12). Collective practices embedded in industrial occupational and organizational cultures are fiercely maintained in spite of government policies (e.g., equity policies), public awareness (e.g., increased pressure to hire non-traditional workers such as women), and shifting labour requirements (e.g., current need for skilled trade labour throughout Canada).

In the next section, I explore how language and the body produce a particular classed and gendered habitus in the industrial field.

Language and the body. Veteran workers understand their workplace habitus – the unique rules for language as well as actions and behaviours. D. Smith (1999) presents a significant point in that languages are social constructions, which are shaped in "the local historical contexts of utterances" (p. 113). For example, as noted in Chapter 4, the term *construction* has particular meanings depending on the context. Mills (1992) maintains that language is the primary technique to legitimatize behaviours and attitudes. Nicolson (1996) further suggests that strategies are founded on rules that direct how men and women interact within the organizational field. Kimmel (2004) argues that women use language to develop relationships and men use these same communication techniques to assert their "autonomy and independence" (p. 84).

Additionally, people's language and speech patterns are used to promote a particular gendered and classed culture. Typical industrial masculinities are acted out through speech that is direct and abrupt. Swearing is also an acceptable form of verbal expression. In my experience, disgruntled employees are vocal about their displeasures. These workers tend to be forceful and loud. Voice and body languages are powerful constructors of gendered relations where underlying messages help influence how skilled trade women conform to and accept masculinized discourses, essentially, a manifestation of symbolic violence. Worker identities are produced and reproduced through voice and body expressions, the culture of the body (Connell, 2000), the place a body occupies, and how the body moves through a space (McDowell, 1999).

Women who work in these environments often adopt many of these same characteristics – laughter is boisterous and somewhat contagious. Swearing is the norm as are loud voices, an observation confirmed by a journeyperson (I-6). An educator notes

that a few women in his formal apprenticeship classroom use "language [that] isn't much better than the guys" (I-2, p. 16). However, I maintain that not all women swear or use coarse language. In fact, it is noticeable when a person does not use crude language. Men have told me that they are uncomfortable around women who are vulgar in their speech. I attribute part of this uneasiness to how women and men are socialized – women should not be foul-mouthed and coarse even in a masculinized environment.

Besides language and how people verbally express themselves, a key aspect of the industrial workers' habitus is built on using and abusing the physical body. Connell (1995) notes the destruction of bodies is evidence of how tough the work is, as well as the workers. An educator offers an insight into his trade:

> It's a special breed of people that do it [industrial work]…I stood on top of [jobsite location] with no fall protection and did my job and…somebody else will…slug through a foot of mud carrying about 50 pounds more than you should, that your body can take, packing [material] on a rainy day…it's not easy. (I-11, p. 23)

In support, one apprentice recites a story about a conversation with a male friend. He said, "I don't think you're strong enough. I think its dangerous work and I don't think it's a place for a woman" (I-14, p. 16). In a similar manner, an educator shares an experience of a woman worker: "She was cut, bleeding, and dirty and dragging through the mud…you can only take that for so long and that's why we get the breed of guys that we do" (I-11, p. 24). This educator's articulation of his experience adds support to the idea that industrial workplaces are rough, tough, and extremely masculinized spaces.

Exploitation of the physical body is not limited to manual labour. Abuse also occurs while engaging in after work social activities involving alcohol and drugs:

> Your assessment as a man [and a trade worker] was your ability to drink with the boys….and go to work the next day and put in a day's work….and do it again the next night…if you were not like that then you were either gay or religious – one or the other – and you were then going to be discriminated against. (I-5, Educator, p. 16)

Stories told by workers, similar to the ones that I was told while I worked in the field and told myself parallels the one shared by this educator. These stories uphold and promote the rough and tough view of the industrial worker.

In a comparable fashion, how the body is used is a language of its own. Body language is a visible manifestation of what it is to be a worker on an industrial jobsite. Movements of arms, legs, and torsos are expansive and defined. A long time ago, I became aware that a person must stride across the jobsite, not shuffle, to show that he/she means business, have a direction, and demonstrate that he/she is serious about the job. The body represents workers' capabilities and sense of worth – strong and able to do a man's job for a day's pay. These symbolic gestures form the epitome of construction masculinities and are often employed to intimidate and control or so it seems to newcomers. During my first few months as a helper for a contractor on an industrial jobsite, the energy and "in-your-face" kind of attitude was overwhelming. I learned to brace my feet and stand up to the best of them. It was either stand firm or go home – a situation that emulates the apprentice's comment about needing a thick skin to work in this field.

Bracing one's feet demonstrates another aspect of the physical, specifically, how a body occupies a location. Bourdieu observes that "men are presence in space and women are insignificance" (McDowell, 1999, p. 41). Resisting the image that Bourdieu has set up, a journeyperson describes herself as a tall and outspoken person (I-1). However, the fact that this journeyperson has to say that she is tall and vocal suggests that this is a point of resistance for her. Her presence – her sense of personal space – contradicts the norm where men typically demand and take up "more personal space" (Nelson & Robinson, 2002, p. 180) than women. But, by her declaration, this journeyperson is demonstrating a resistance that becomes a circular process – if a person resists, something or someone will push back. This person is pushing against what she has encountered as an opposition. If this woman is in a position of the "norm," she does not have to declare it.

Evidence of symbolic violence is woven throughout the research participants' comments. A number of skilled tradeswomen working on Canada's industrial jobsites and learning in related apprenticeship training settings acquiesce to dominant workplace masculinities. Women seem to accept these practices to survive in these work and learning environments. I mean survive in the sense that they can keep their jobs and be somewhat accepted by their co-workers. Women appear to actively participate in a series of activities that promote these macho masculinities and, as a consequence, negotiate and renegotiate their identities to take on more masculinized attributes. This acquiescence endorses Gramsci's hegemony theory in which he articulates how institutionalized norms and traditions influence people's behaviours and attitudes.

Hegemony, according to Armstrong and Armstrong (1990), is established because of concessions among individuals within a shared social space. These authors maintain that points of contention (e.g., unfamiliar norms and traditions) are agreed upon through the reproduction of customs and ideas, which present the foundation for consent of what appear to be common sense notions. Bourdieu (1984), in his articulation of Gramsci's writings, declares that workers are inclined to bring their dispositions and attitudes with them in all aspects of their lives. In support, Skeggs (1997) maintains that "women constantly enter implicit trading arenas where their sexuality, femininity and respectability are judged in terms of values in which the rate is established by others" (p. 12).

When women enter unfamiliar workplaces such as the industrial field, women skilled trade workers encounter situations where they are forced to renegotiate their working identities through a process of co-constructing their identities. Jacoby and Ochs (1995) describe co-construction as "*the joint creation of a form, interpretation, stance, action, activity, identity, institution, skill, ideology, emotion, or other culturally meaningful reality*...including collaboration, cooperation, and coordination" (p. 171, *italics in original*). These authors further suggest arguments or other interactions (positive or negative); in fact, all social interactions and how they are managed, negotiated, and internalized contribute to people's identities. In the industrial field, women engage in a variety of positive and negative interactions on a day-to-day basis. Many women tend to, in my experience, downplay their sexed bodies by, for example, wearing clothing that is bulky and masculine or speaking in a more direct and abrupt manner and thus participate in the co-construction of their working identities.

I write from a position of situated knowledge, as a woman who worked many years in the industrial field as a skilled trade worker. In the spirit of Bourdieu's reflexivity, it amazes me how easy it is to acquiesce to the organizational and occupational cultures of the industrial field – to the point where these cultures are normal and everything I did was weighed and judged according to industrial norms. After I left the field and began to reflect on my work and education years, encouraged to do so because of my academic studies, I realize I was assimilated and acculturated into the field. I agreed to the doxa of the field. It is a classic situation where one is so familiar with the field that one no longer questions how the system works; one does not question the official standards or the hidden criteria of the working class masculinized habitus because it is the way it is.

Women are a backup labour pool

Throughout the 20th century, and into the 21st century, governments, industry, and society anticipated and responded to economic declines and growth. When the economy is strong and there are numerous jobs for potential workers, there are pressures on employers to pay good wages, offer decent benefit packages, and hire people who are outside of the norm.

However, should the economic situation be such that jobs are scarce, employers have more opportunities to limit their hiring to traditional workers and exclude others who do not adhere to the norms. But Canadian employers are currently seeking people skilled in a variety of trades and technologies to construct and maintain their facilities and

enterprises. The challenge for many companies is that they want to hire skilled trade people, except there are not enough qualified individuals to meet these demands.

Labour shortages force unions and non-union companies to seek, once again, non-traditional labour sources to meet their hiring requirements. For example, women, new immigrants, and Aboriginal peoples are "future labour supplies for the construction industry" (Construction Sector Council, 2006). This is especially true in western Canada where the oil and gas industry is growing at an unparalleled pace and there are a limited number of skilled trade people to fill the present and projected labour requirements. In varying degrees, different stakeholders – government, employers, colleges, technical institutes, unions, and profit and not-for-profit organizations – are investing in initiatives to entice women to consider skilled trade careers. These organizations hope that their investments will have a positive return, specifically, people willing to work, who have some basic skills, to progress into formal apprenticeship programs and obtain their tickets.

According to an employer, the lack of skilled trade workers today is a result of the 1980s and early 1990s downturn in the industry where there was:

> [A] real glut you know working their way out of the building and construction industry and then there was a real blind spot between those folks and then another generation in the middle and then the younger folks who have entered the trades over the last 10 to 15 years. There's a real gap there. (I-3, p. 11)

From another perspective, an educator believes that the issue is not a shortage of labour; rather, the issue is a shortage of skilled labour (I-5). Women are now, once again, considered to be an untapped labour source, but they lack the required skills; therefore, it

is necessary to train them (I-5, Educator). An employer affirms that for "most of the apprenticable trades, there is absolutely no reason why women cannot be in them" (I-4, p. 5).

Despite the notorious reputation of the industrial field, an employer maintains: "I do believe it [the workplace] is changing and it's changing for the better…I think it has to" (I-13, p. 19). I agree. The field needs to change if it is going to attract and retain a skilled workforce. Fleras (2001) states: "Work and workplaces are undergoing change with respect to what they look like (structure), what they are supposed to do (function), and what they really do (process)" (p. 259). Although there appear to be modest improvements in Canada's work and workplaces, dominant societal values and views are deeply-rooted and difficult to change. Tilly (1998) describes this deeply-rooted view as "*durable* inequality" (p. 6) in that:

> Employer discrimination operates largely through the installation of organizational boundaries rather than person-by-person differentiation. Workers' preferences conform significantly to built-in boundaries. Even state intervention…typically rests on categorical assumptions concerning capacities and propensities for different kinds of work. (p. 107)

Durable inequality is evident in industrial workplaces. Persistent employment practices have and continue to maintain locations of resistance. These practices are founded on established discourses and gender relations. Thus, systemic gender inequities still exist. Cameron (1996) states that labour market policies tend to fortify inequalities according to gender divisions. Armstrong and Armstrong (1990) write that training, employment insurance, minimum wages, maternity leave, and sexual harassment policies

have a profound influence on women and their paid work involvement. Further, labour laws, according to Ursel (1986), are designed to promote and maintain women's reproductive role, which limits their paid work endeavours.

Framed within the institutionalized structures that do not willingly accommodate women in this field, the current employment situation in Canada is creating opportunities for women who are interested in pursuing careers in the skilled trades. An employer shares his views on the labour shortages in that it has:

> [C]reated more opportunity and I do believe that more [women] have stepped forward and have taken the initial step to go in. As far as acceptance goes, I think the only element of acceptance that has changed is the willingness of employers to reach out and try taking women as a solution to a workforce, a depleted workforce. So I think the acceptance has come more as a result of need rather than proactive thinking. (I-22, p. 1)

The Canadian economy is booming and there are some employers who are trying to hire women to meet their labour requirements. However, the industrial field's founding structures and organization of work still exists; therefore, the retention of women in these skilled trades is abysmal. I make this observation based on my experience in the trades, which is further supported by statistics. According to available statistics, there are clear indications that women working as skilled trade workers exit industrial workplaces in alarming numbers. Even if women have found employers to sponsor their apprenticeships, they do not typically finish them and, as a result, do not obtain their journey status. For example, within the Canadian context, in 2000, 280 women (17,500 men) enrolled in the industrial and mechanical trades and 860 women (46,760 men)

registered in the metal fabricating trades. In this same year, 10 women (1,640 men) completed their apprenticeship programs in the industrial and mechanical trades and 30 women (4,150 men) received their journey status in the metal fabricating trades (Statistics Canada, 2003c).

Even though there are women who earn their journey tickets, few remain in the field. Upon hire, a woman is constantly watched, judged, and assessed. Supervisors and co-workers look for actions and behaviours that will confirm their belief that women do not belong on jobsites or that they are not capable of doing the work. An example is when a woman does not perform her work as required or she engages in unacceptable activities (e.g., a woman in a sexual relationship with a co-worker, yet very little is said about a man in a similar situation). An educator is adamant that "it's worse if a woman does something terrible...it sours [people] for a long time" (I-5, p. 14) and takes other women a while to repair the damage. Another employer explains that for some men, working with women on industrial jobsites is difficult because they are "not as open minded" (I-3, p. 8).

Despite the presence of closed-minded men on industrial jobsites, the journeyed women in my study entered the industrial field with the notion that they were going to be successful in their endeavours. A great deal of pioneering spirit surfaces throughout the participants' comments. For example:

> I think my attitude right from go was there's nothing here that I can't learn....And the other biggest thing was approaching it, not hesitating and I don't know if this makes any sense, but men I find they you know grab something and they try it. They jump right in...But just the women in my life that I've watched are just a

> little bit more hesitant. Well they stand back and you know let someone else take charge or, and I found that I had to jump in with both feet…Just take some initiative and jump in. (I-6, p. 13)

Without this pioneering spirit, a woman will find it difficult to survive in this field. There are few incentives to entice women to consider trade careers and even fewer supports in place once a woman arrives on the jobsite. These observations prompt me to question the permanency of changes due to governments' and other organizations' current efforts to invite women into the industrial field. Will a downturn in the economy hamper the momentum to attract and train women in the skilled trades? An illustration of how gender boundaries expand and contract is found in history during the World Wars.

During these wars, gender boundaries opened because women were needed for the war-effort, but these boundaries closed after the war (Burt, 1993). Closely related to this situation is my field experience. When I started working in the industrial trades in the 1970s, skilled labour was needed. Therefore, women were seen as a viable labour source, yet few women entered the industrial field during this time. It was more likely that women, similar to me, fell into the skilled trades because of family connections. However, for the women who did go into the field, the 1980s economic downturn, found "gate keeping" activities in place. A similar situation is occurring today, in the early 2000s. There is a shortage of skilled labour in some trades, thus employers are trying to convince women to apply for work in the industrial field. As noted by a training provider, it is time to push the boundaries to recruit and train women skilled trade workers (I-7).

There is a constant "to and fro" pattern. History demonstrates how borders are porous only when the economic situation allows it. They become impermeable, quickly,

when workers are not needed and women are excluded yet again. Nonetheless, Wallace (2002) suggests that every time the borders expand and contract, the field changes to a certain degree, including the habitus. Based on history, I speculate that when the labour market does not require as many skilled trade workers, the gender boundaries will contract and women will not be as welcome in the industrial field. However, the habitus will shift; albeit, not much.

Making it work in the industrial field

The ticketed women in this study are interested in working with their hands and are economically independent. In fact, their primary motivations for working in the industrial field are money and security, and to meet these goals they learned the skills of their trades. However, an educator is surprised when he meets women who are interested in the trades and that they are willing to "be more involved in something to do with their hands and less with being involved in an office" (I-5, p. 7). Another employer emphasizes that women do not mind getting "down right dirty and muddy" (I-4, p. 18). One journeyperson states "it's really exciting building something that large" (I-6, p. 4) and another one "likes the feeling of reward when somebody says, 'okay this is broken' and you go in and fix it…you make it happen" (I-1, p. 8). Graul-Follis' (1992) study participants state similar reasons why they work as skilled trade workers. These women are seeking occupations that are not service oriented. They have strong mechanical aptitudes and are looking for greater economic freedom.

The journey to gain these rewards and find satisfaction in their career choices is difficult. My study participants recite stories that communicate how women come to

understand the tenuous positions they are in. They encounter locations of resistance – a key theme in this research. Examples abound in my interviews about strategies that women use to respond to resistances they encounter on industrial jobsites – nuanced locations of resistance that emerge in different ways. During our interviews, three techniques women use to survive in the industrial field stand out for me: Ignore, accept, or challenge. I illustrate with a few examples.

When a person understands the organization of the work as well as her job scope, she has the means to overcome resistances:

> [T]here's always the initial apprehension with whoever you are working with and it doesn't take me long to get past that or it doesn't take them long to get past that once they realize what kind of person I am and you know I'm not what they're worried that I'm going to be. (I-6, Journeyperson, p. 6)

This journeyperson believes she needs to be definite about her approach to her job:

> In doing the work and pulling my weight and I think that was my first step and making contacts at that level and I just set out right away to I guess put myself out there and you know I have the image. And I was very conscious about that, about having the right image….I'm not there to fool around, I'm not you know giggly in well I am but you know I wanted people to take me seriously….And so I started that right away and it and it's worked out well. Just professional I guess….I wanted to be taken seriously. (I-6, p. 12)

On the jobsite, from personal experience, we know we are different and the men working beside us are aware that we are different. If we present ourselves as serious and capable, we hope that we can downplay or redirect how men receive us on the jobsite. It

is at this mirco-interactive level that determines if a woman stays in the field or not. A person can get the job, but can this individual keep it? Essentially, getting the job is the easy part. The question is whether a person can adapt to the masculinized workplace habitus. Thus, when examining an environment with definite boundaries that prevent change, it is necessary to question how it could be different; albeit, there are no quick answers. In response to my question during one interview about what changes could be put in place to improve the work and learning environments, a journeyperson declares "that would be implying that the workplace or the education system needs to change for women….I don't think so" (I-6, p. 15). She continues: "[T]hat's where the being naïve comes into play. You just, you know, keep doing what you are doing….Don't take things to heart because if it's meant to hurt you…it's nothing worth listening to" (I-6, p. 17). This is a demonstrable act of developing a thick skin and ignoring in a work environment where to "tease and taunt" (I-6, Journeyperson, p. 12) new hires and apprentices is typical. My experiences support this journeyperson's position.

There is an interesting element that surfaces in the naïve concept for me. Does the label "naïve" allow a person to ignore situations that could be reassessed as harassment? These situations might, in reality, be harassment, sexual or otherwise, yet it is interesting that only a few of the research participants named some of their experiences on industrial jobsites as sexual harassment:

> I'm sure there were times when that [woman] apprentice experienced a little bit of harassment of others but I think the person themselves has to overcome it and kind of if that happened, put a co-worker in their place. (I-4, Employer, p. 3)

A journeyperson elaborates:

> [O]kay there's been a few like sexual harassment. But I solve those on my own or whatever they just went away. Like we get contractors in for our shutdowns. It doesn't bother me so much now because I'm older but when I was younger, 21 years old, 22 years old, you get…contractors in to do a shutdown you get guys following you around like a puppy….it's like they forgot they had a wife at home when they left the house this morning. That stuff used to drive me nuts. I'd tell my boss when shutdown was coming; I don't want to work in the yard. You put me someplace where I don't have to deal with that. (I-1, p. 9)

Similar to this journeyperson's experience, an employer has had situations where sexual harassment issues have come to light. These situations were typically of a "slanderous kind of nature and bordering on what I would call I guess harassment type issues. Just with the general acceptance not being there in the general [construction] population" (I-3, Employer, p. 4) for women workers. A training provider in this study also suggests that employers are afraid to hire women because of potential sexual harassment lawsuits (I-7). For me, employers who use this excuse have not or are not willing to educate their employees about appropriate workplace conduct. This reason is also a convenient gate keeping mechanism. In my experience, employers and unions typically do not have the resources or knowledge in place to deal with sexual harassment. This is an area that requires further study.

Another example of the "naïve" idea is displayed in an interesting manner. Specifically, femininity and masculinity are not words commonly used when participants

shared their experiences about working on industrial jobsites. In fact, no participant in this study uttered these words, but inherent notions of these social constructs emerged.

> I am either truly unbelievably naïve or just I did it [obtain work as a trades person on an industrial jobsite] at the right time with the right attitude....I just never worry about it [being a woman working in a non-traditional occupation] too much. Never really got hassled too much. Just one of the guys....went drinking with the guys, went partying with the guys. (I-1, Journeyperson, pp. 7, 8)

Participants' comments reveal how cultural practices of the industrial masculinized workplace become the norm or *natural*. A journeyperson states: "[Y]ou have to go out there and be willing to do the job. And you know you're not going to change the environment you work in, it's the environment" (I-6, p. 16). Yes, a person does need to be willing to do the work; however, adherence to workplace masculinities also promotes and maintains symbolic violence (Bourdieu, 1998). Conditions that create nuanced exclusions get enacted and women submit to prevalent norms. Moi (1991) further suggests that symbolic violence is a situation that "produces women who share the very same habitus which serves to oppress them" (p. 1030).

Nonetheless, some women do find a niche in the industrial field and achieve a degree of success and legitimate worker status. Capitals that some women acquire are economic (money, vehicles, and real estate), social (strong co-worker network and union memberships), and cultural (journey tickets as well as knowledge and language of the trade, e.g., materials, equipment, and slang). These capitals, in turn, are converted into symbolic capital – the dynamic concept of approval and respect (Bourdieu, 1998). Skeggs (1997) notes that in some arenas femininity can be used as cultural capital; however, this

is not typically the case in the industrial field (an exception to this observation is noted on page 174). Femininity's cultural value is limited in the industrial field; whereas, masculinity has a greater trading value.

But it is notable that, in a complexity of contradictions, the few women who have some capital, symbolic or otherwise, will distance themselves from situations that may be perceived by others as actions or behaviours that devalue their capital. Women, once they are on a jobsite, tend to avoid associating with other women field workers. According to Bourdieu (1998), individuals will use strategies to "acquire or conserve it [symbolic capital], by joining groups which possess it…and by distinguishing themselves from groups which possess little or are destitute" (p. 104).

Acculturated women are cautious in their acceptance of other women when they first enter the industrial field, not only because women have to share their social capital, but these outsiders have the potential to destroy the tenuous positions and acceptance they have established. A government representative, in support, suggests that women may hesitate to associate with other women on jobsites because:

> [S]ometimes tradeswomen who have worked very hard to get where they are, don't always have that gender lens or gender analysis of the kinds of dynamics or barriers that are there for one gender as opposed to the other and I think when we're teaching in a trades' environment for women how important it is to have that perspective as part of the learning. (I-9, p. 10)

Preserving the industrial masculinized culture becomes vital to existing workers even by women who are acculturated – people who have conformed to these skilled trade

masculinities. These women have a vested interest to retain their capital and to survive in the field.

To illustrate further, one employer in his attempt to set up a mentoring program for young women testifies he was:

> [V]ery disappointed with most of the women that I've had discussions with and promoted into supervision and management…[by] their lack of ability or lack of willingness to mentor other young women…there's a real barrier there…Is this a threat...I remember saying to one woman who was extremely successful, 'wouldn't you mentor a couple of young women, take them.' 'Oh, no….I'm afraid I may, what I did, if I mentor them according to what I did to be successful I might be, I might hurt them. I might affect them in some way. No, I don't think I'm the right person…to do it.' (I-12, p. 23)

Expanding the idea of how women do not help other women on the jobsite is presented by a training provider:

> [Women] might go out and think 'oh there's another women on the site, great she's going to be my best buddy.' And of course the reality is, is that it's probably going to be the opposite until you either prove yourself and still, she might not like you because you are a woman. (I-7, p. 14)

Blackmore (2002) refers to this pattern as the "social male script" (p. 62) in the educational leadership arena, but there are tendencies that transfer to the workplaces described by my participants. Within this script, women are generally unaccommodating towards other women in the workplace and, at times, can be quite hostile towards women co-workers. It is possible to attribute these actions to a process of assimilation women

engage in as they integrate themselves into the masculinized workplace habitus. Women take on the values, beliefs, and symbols associated with this culture and learn to ignore, accept or challenge oppositions to ensure that they can survive and perhaps excel in this environment.

To make it work in the industrial field, there is a characteristic that most women exhibit. A journeyperson explains:

> I suppose it's non-traditional. Not a heck of a lot of out here....I do have to say it's kind of part of the excitement of it. You know you're doing something different or how would I say. It's not, it's not like walking on the moon or anything heroic or you know I don't want to elevate it that point or it's not like that. I do find it exciting breaking the stereotypes…you step into that lunchroom and there's 30 guys you know in coveralls standing there and you know I'm here to go to work....and I guess the accomplishment in what it, you know in being in a non-traditional occupation is when you make those friends and you know the guy that gives you the hardest time in the beginning realizes that you know this isn't that bad. (I-6, p. 10)

Yes, this is part of the excitement. It is similar to the feeling I suspect many women experienced who entered the SET, business, and education administration areas – a pioneering spirit.

Treating women and men the same…or not

Even though a lot of people think that women can do skilled trade work, half the research participants commented on how women and men are treated differently on

jobsites. I also experienced this unequal treatment. Interestingly, there are a few different perspectives on how this treatment is taken up, specifically, whether it is a discriminatory act or a helping hand. Unequal treatment between women and men is noted by experienced and successful tradeswomen in my study in two distinct ways. One woman finds that her success in the trades makes "people want to rip you down....Oh but it's so easy to say 'well she got preferential treatment right'" (I-6, pp. 18, 19). Another journeyperson talks about this inequality in a positive way: "[T]here's been incidences well and it's kind of almost the reverse...I could probably get things done or get things that I wanted faster than if the guy asked for the same thing" (I-1, p. 11). This journeyperson is demonstrating how a woman draws on her femininity as a form of cultural capital.

Skeggs (1997) explains that cultural capital has three formations: the embodied, objectified, and institutionalized state. Entrenched dispositions and ways of understanding are embodied. Cultural goods are located in the objectified state. Lastly, the institutionalized formation is, for example, educational credentials. Femininity and masculinity are embodied and have the potential to be converted into cultural capital. Skeggs further suggests:

> Each kind of capital can only exist in the interrelationships of social positions; they bring with them access to or limitation on which capitals are available to certain positions. They become gendered through being lived, through circulation, just as they become classed, raced and sexed...The social relations of capitals into which we are born and move have been constructed historically through struggles over assets and space. (p. 9)

In the industrial field, which is a classed and gendered space, women's use of their femininities does not necessarily privilege women over men. Women have a limited repertoire of capital to draw on and when they use it, women's actions may be interpreted as taking advantage of their gender. Women who use their gender create precarious situations, especially in isolated areas such as industrial jobsites where women's actions and behaviours can be misinterpreted by co-workers.

According to Blackmore (2002), women are not "one of the boys," but since there are few women, they are "offered differential treatment and status as 'the exception'" (p. 62). Blackmore's statement parallels my work experiences. There is an added factor about treating women differently on jobsites that deserves consideration. In general, men co-workers do not know how to respond to women who are hired as crew members. Men's previous social experiences such as childhood school and sport activities, and relationships with girls and significant women in their lives have not prepared them for working with women in workplaces that have traditionally excluded them.

Other stakeholders in this study such as employers, training providers, and government representatives see the treatment of women and men in different ways, which exposes some contradictory reactions among these research participants. Employers that I spoke with during the interviews are of the opinion that equal treatment is a fair way to operate on the jobsite. In contrast, Sugiman (1992) observes that neutral responses to gender differences or treating women the same as men tend to have limited outcomes. Pringle and Winning (1998) mention that the women they spoke with, in their study of building construction trade workers (women and men), believed that it was important to acknowledge the assistance offered by men. These authors also highlight that women

who are given preferential treatment are in a paradoxical situation: "Should they interpret it as respect or as an indication of men's refusal to accept them as full-fledged colleagues?" (Pringle & Winning, 1998, p. 225).

In my research, a government representative and a training provider believe treating women the same as men creates an uncomfortable situation for women. There is a "gender dynamic on the worksite…sometimes people tend to do things more for you" (I-9, Government Representative, p. 9). An employer states:

> I've seen more where you know a woman tradesperson is more taken under somebody's wing more so than the men. A man to a man type relationship it'd be, I think that there's, not that there's going to be more protection for that person, the female or anything like that….But I've actually seen it in my own worksites where I've been in the field where you do that little extra, not that you're doing anything special, but it's just I think you're doing it just because you think you need to, not necessarily because you know you need to. You know, I think it's just the way we are socially. (I-3, pp. 9, 10)

Although these research participants agree that some women receive a "little extra" help, the employer in the above excerpt makes allowances for these reactions. The notion that men need to help is problematic. These types of actions cause one study participant to pose a question: "[H]ow do you have that autonomy…gain that autonomy and that confidence on the worksite when you encounter really subtle attitudes" (I-9, Government Representative, p. 9).

One of the employers, who works off-site, states she does not treat women any different than men (I-4, p. 12). In confirmation, another employer, who also works off-

site, shares his thoughts: "I usually have very few concerns because those individuals knew exactly what they were getting into….what the environment was going to be that they were working in and I treated them the same as everyone else" (I-3, p. 9). In the spirit of treating women and men the same, another employer declares: "Oh yeah, I don't differentiate between a man and a woman. No, I don't care. I want a job done and that's it. Come to work that day and actually do a job and go home" (I-13, p. 21). From these employers' points of view, there is the expectation women skilled trade workers are knowledgeable about the nature of work and have willingly accepted the *rules* of the industrial field. However, it is the women who did not stay in the field who need to answer the question: Why did you leave? Often women do not say anything when they quit their skilled trade jobs, but their stories may offer insights about how to improve jobsite relationships. This is an area that requires further study. Truly, newcomers require additional information and support (see Chapter 7).

In contrast to the notion that women get help on the jobsite, another employer, a woman, notices that once on the jobsite women trade workers must "prove themselves more. In other words, two green [novice] helpers can come on, one male, one female; I do believe that for the most part the co-workers look to expect the female maybe to prove herself more in her abilities" (I-4, p. 2). Another research participant, a training provider, states that a woman must prove that she is there to do her job (I-8). This thought seems to suggest that men do not have to prove themselves as skilled trade workers – a notion that I did not witness during my time in the industrial field.

Not every employer that I spoke with agreed with the "treating everyone the same" approach. An employer states:

> I felt confident that I had managers and supervisors that could manage, particularly women in non-traditional work....I overestimated my supervisors' and managers' abilities to really cope with that and in some cases I put them in a position where they were being compliant rather than committed. And because I was very committed, I was blind to the fact that my managers and supervisors may not be committed so they're going to exhibit compliance and I *interpreted compliance as commitment*. (I-12, p. 21, *my italics*)

In this story, this employer highlights two important points. First, treating women and men the same does not always work. Second, management personnel who do not work on the jobsite may mistakenly interpret compliance for commitment. This employer goes on to emphatically declare: "[W]hen we create policies and procedures...you have to be committed to work with them. And not do it just because you're being told to do it. And here's where the wheel came off" (I-12, p. 21). Policies put in place to advance women's opportunities in skilled trade occupations may be taken up because people are directed to do so and often without commitment. This employer's comment adds credence to my argument that policies to promote trades to women have had little effect. Based on my previous work and education experience, changes to the organization of work and the nature of the workplace culture to be more amenable for non-traditional workers must be grounded at the grassroots level with a management that is committed to their policies.

Another dimension embedded in the idea of treating women the same as men on the jobsite is linked to the private sphere. Pretending that women and men are the same is refusing to acknowledge that differences exist. If women are treated the same as men,

there are unspoken assumptions that women have rearranged their home responsibilities similar to that of most men. Furthermore, if one assumes that women carry the same roles outside of the workplace as men – this is problematic. Although it may be true that some women do not have familial responsibilities, many do.

As discussed previously, work in the industrial field often occurs out of town. Family responsibilities must be taken care of, which are tasks often placed under the women's work category even if these women are working in the industrial field. There are few allowances made by employers for families. Similar treatment perpetuates tensions between the home and the paid work domains. Women are often expected to take on a larger portion of child care, elder care, and more of the household duties such as cleaning, groceries, and bill paying, tasks that leave men free to pursue occupations such as the skilled trades that demand long absences from home. The expectation that women can take on a role that is founded on a model developed and maintained by men is unreasonable. Men who work in these industries are usually single or, if they have significant others, rely on those people to take care of the home work.

Policies are ineffective recruitment and retention mechanisms

Government and corporate policies have and continue to be implemented that address different concerns, for example, equity, vocational and education training, and access to workplaces. However, as Pal (2001) contends, policies are instruments to tackle issues and are not intended to be "ends in themselves, or even good in themselves" (p. 3). Pal's assertion is supported by the participants' comments throughout the research data.

In response to whether government-training initiatives increase the numbers of skilled trade workers, an employer strongly disagrees that policies implemented in Canada to promote skilled trades to women and other non-traditional workers have made a difference (I-3). In contrast, one employer contends that these policies and programs are proactive, but more needs to be done (I-3, Employer). Training unskilled Canadians, particularly women, for industrial trade work has typically been left to federal, provincial, territorial governments; however, this same employer advises that the responsibility for training belongs to industry (I-3). Instead of concerning themselves with government policies, this employer is of the opinion that it is more important for companies to promote apprenticeships. Although this employer advocates apprenticeship training for his employees, it is interesting that this organization does not specifically target women for skilled trade training (I-3). Even though this employer promotes training for unskilled individuals, in my experience, few employers are willing to invest in training unless absolutely necessary. The argument about what organizations are responsible for training is circuitous. On one hand, employers need skilled labour, thus it seems that it would be in their best interests to heavily invest in skill trade training. On the other hand, employees should take on the responsibility for their own training because most skills are mobile and it is the worker who mostly gains. Employers benefit only when the person is working with their organizations. Lastly, governments should invest more in training Canadians due to the fact that a well-trained workforce supports and sustains the economy and generates tax revenues that can be used to supplement a welfare state. This is an area that is a subject for future research.

Another employer mentions that recent federal government initiatives, specifically Labour Market Development Agreements (LMDAs) and the now defunct Designated Group Policy (DGP), have hindered funding schedules that might have made monies available for training non-traditional workers (I-4) (see Chapter 2). The LMDAs and subsequent distribution of monies are closely linked to federal EI eligibility criteria (Critoph, 2003). Although I question whether more money will solve the issue in its entirety, it might be that, as discussed in Chapter 7, better designed programs are the key to help women transition into the industrial field. Many bridging programs have weak goals or objectives, if stated; superficial course content (fluff); and are of short duration. I suggest that policies tend not to produce quality pre-apprenticeship training programs for women. A primary reason for the lack of quality training programs is that in the design of these programs, developers have not taken into consideration organizational and occupational cultures of the industrial field.

Eliminating inequitable hiring, retention, and promotion activities have proven to be difficult. In support, Armstrong (1997) suggests that existing structures resist the fundamental tenets of inclusiveness in the workplace, thus inequalities are still present. However, more women-only training programs have been established to introduce women to non-traditional skilled trades in the past ten years. The reason, in part, for this influx of training initiatives sponsored by federal, provincial, and territorial government agencies as well as private and not-for-profit organizations is to alleviate the shortage of skilled trade workers occurring in many parts of Canada. Nevertheless, a training provider expresses concern in response to "all kinds of programs springing up" (I-7, p. 12), specifically:

> [T]here have been lots of programs before. In the 70s there was a ton of programs for women getting in the trades and typically in the long haul, in the bigger picture, they were not successful and we know that because of the [low] number of women in trades....So the retention rate is poor. (I-7, p. 13)

However, government representatives, trainers and educators, employers, and employees persist in their efforts to encourage women to consider skilled trades as careers. The small number of women who enroll in industrial trade apprenticeship programs is a concern, but the few women who actually complete their apprenticeships is also troubling for people promoting trades as a career option to women. Hidden among these observations are the lived realities that women encounter on industrial jobsites. One training provider states:

> The workplace culture is such that women leave in droves apparently. Certainly, the statistics show that retention is abysmal. They are not there. They come in and a lot of them get their journey status but they don't stay....It takes, you know, incredible endurance and, you know, perseverance, determination and then after that, this isn't it. (I-7, p. 16)

Similarly, hardships are not only experienced at the physical level, as noted earlier, that is, manual labour or substance abuse – rather it is the realization that a person may have little emotional support at the jobsite. A training provider asserts: "It's the isolation, just dealing with that day-to-day, always having to, you know, prove yourself if you're on a different crew. It just kind of never goes away" (I-7, p. 13). In support, a government representative suggests that just teaching concrete skills is not the answer because there are:

> [N]uances within the workplace that can be extremely challenging and lead to a lot of burnout and the lack of retention of women within the non-traditional trades, particularly when there's not critical mass and here I'm thinking about 30 percent of women within a particular workplace. (I-9, p. 10)

Another study participant, a training provider, indicates that it is difficult to retain women and encourage them to work through the apprenticeship process if women do not believe they are supported in their endeavours (I-7).

The fundamental organizational and occupational cultures direct how the industrial field operates and some of its members resist the idea that women have the wherewithal to be legitimate participants. The training providers I spoke with during the interviews are aiming to level the playing field for women. Their goal is to have employers and their employees to view women as workers. The trainers understand that a woman will never be one of the boys – nor do they endorse this view. A training provider maintains that employers who have hired women will hire them again; however, it is difficult to convince employers who have never hired women to do so (I-8).

Those women, who have the inclination to be skilled trade workers, will find ways to ignore, accept, or challenge locations of resistance they encounter in the field. This position is evident in this journeyperson's comment:

> I would never have pursued this trade if I had decided I was going to walk into a classroom and tell them that things have to be different because I am a girl…. perceptions of me would be completely different….I would not be where I am sitting today if I had that attitude….I think the thing that needs to change are

women's perceptions of what they are going into. They need to be realistic. (I-6, p. 15)

In this passage, this journeyperson clearly understands what it takes to make it in the industrial field. Unfortunately, the overriding concept is that women need to change; whereas, men do not. For the industrial field to be a space where all people are recognized as able skilled trade workers, it is necessary for men as well as women to reassess their conception of what it is to be workers on industrial jobsites.

Conclusion

The industrial sector is one of the most resilient institutionalized masculinized work spaces in western society. The themes that emerged from my interviews with research participants are founded on the notion that the present structure of industrial work continues to perpetuate traditions established many years ago. Women will encounter locations of resistance because the industrial field is an old culture and there is the notion that this field will not change. Throughout history, other occupational sectors were similarly situated until the middle to late 19th century when economic restructuring called for additional labour. Women were available for work. However, there is a historical trend among a few occupations (e.g., teaching and clerical) where they become *feminized* when a significant number of women are employed.

Probert (1999) argues that the debates about feminization of the workforce are centered on gender roles and one of the main concerns is horizontal segregation. According to Gunderson (1998), women tend to be employed in occupations on the lower end of the hierarchy such as retail, service, nursing, and childcare. In these occupations,

the paid work performed by women is systematically undervalued (Steinberg & Haignere, 1991). Contrary to these views, Altman and Lamontagne's (2003) study of the feminization of clerical work in the early 20th century questioned how this work affected the overall pay of women. A significant finding of this study is "that the movement of women into clerical work…did not result in increasing the gender pay gap in Canada. Instead, it reduced this gap as women's pay in clerical work increased sharply relative to men's from 1900 to 1930" (Altman & Lamontagne, p. 1046).

In the foreseeable future, it is unlikely that the skilled trades will become feminized occupations. Stories from the industrial field continue to reinforce ideas that women will find as locations of resistance, even though a few more women are employed as skilled trade workers. Government and corporate policies and regulations also underpin these stories. Projects and jobsites are institutionalized structures built on official standards and hidden criteria, which embody a particular masculinized working class habitus (see pages 56 and 67 for an explanation of middle class habitus).

Women encounter numerous obstacles, not the least family, friends, school personnel, and potential employers. As well, on the jobsite, skilled tradeswomen often meet men in these masculinized workplaces who resist, resent, and adamantly oppose their presence. In response, women skilled trade workers tend to employ three strategies to manage these oppositions: Ignore, accept, or challenge. However, there are few identifiable methods that women use to challenge the habitus evident in the research data, except that they have not left the industry. Mostly, women who decide to stay and work in the industrial field tend to accept the masculinized habitus, which is a manifestation of symbolic violence.

Women are, on the surface, perceived as valued workers in this field as a backup labour pool. On the jobsite, different stakeholders, including the women themselves, notice the different ways that women are treated – the same as men or not. As demonstrated by the participants' comments, each approach is problematic.

Nonetheless, employers' resistance to bringing women into their workforces is changing because there is a shortage of skilled labour and "the industry is starting to go 'oh geez I think we've got to do something here'" (I-7, Training Provider, p. 8). Lastly, participants articulated their scepticism that social, labour, and vocational education and training policies can influence women's participation in Canada's skilled trades.

In the next chapter, I examine three select training programs that are models that can advance interested women's access to the industrial field. These programs introduce women to the skilled trades and to the nuances of the industrial workplace.

CHAPTER SEVEN

PUTTING INTO PRACTICE WHAT WE KNOW IN THEORY

In this chapter, I build on the information presented previously, specifically, the industrial field, working class masculinized habitus, and my research findings. I examine how three training organizations, with or without sustained policy support, have put into place well-designed training programs that introduce interested women to the skilled trades. I also investigate how awareness of the workplace habitus informs program pedagogy.

It is not my intent to prove whether policies implemented by Canadian governments in the past few decades are effective; rather, I examine how people in their localized situations use, modify, or disregard government-directed policies. I further argue that these organizations move beyond policies and the whims of governments to advance the political, social, and economic wellbeing of women. These organizations are putting into practice what we know in theory. A study of these practices helps us to better understand the locations of resistance, not just the policy context, but locations of resistance that women encounter in the industrial field. I argue that these programs are shifting who has custody of craft skills and, as a result, are challenging the long-established masculinized occupational and organizational cultures of the industrial field.

I first define learning, pre-apprenticeship training, and skilled trade bridging program. I then review recent events shaping skill trade training in Canada including stakeholder positions and policy developments. In this section, I develop the information presented in previous chapters. I follow these sections with a critical exploration of the

research participants' views about the industrial field from a training policy perspective. I then examine three select bridging programs operating in western, northern, and eastern Canada; hereafter, referred to as WCP (Western Canada program), NCP (Northern Canada program), and ECP (Eastern Canada program). I conclude with a summary of this chapter.

Definitions: Learning, pre-apprenticeship training, and bridging program

Learning is a social practice that involves relations between the person, community, and surroundings (Lave & Wenger, 1991; Illeris, 2003). Apprenticeship training embodies this holistic learning definition. In Chapter 5, I document that an apprenticeship program is a formalized system in which the employee enters into a contractual agreement with a provincial or territorial government and an employer. Upon entering this contractual agreement, the apprentice then completes a series of on-the-job and in-class training to obtain journey qualifications. Depending on the trade and successful completion of the Red Seal exam (Human Resources Partnerships Directorate, 2004), these qualifications are recognized throughout Canada.

Apprenticeship refers to two distinct, but related concepts. First, apprenticeship in this research context is a formal process to achieve a career in a skilled trade and, second, apprenticeship is a recognized approach to learning. Apprenticeship as a learning approach is a method to learn by practice (Bunn, 1999). Pre-apprenticeship training, in a similar manner, is premised on these same notions. Likewise, the phrase "legitimate peripheral participation" depicts newcomers' incremental involvement in a community of practice as a means to gain understanding of the occupational and organizational cultures

(Lave & Wenger, 1991). One way to gain peripheral access to skilled trade occupations is pre-apprenticeship training, which is a form of pre-employment or bridging training.

The terms, pre-apprenticeship, pre-employment, and bridging program are used interchangeably throughout this discussion. A skilled trade bridging program is a structured pre-apprenticeship training process designed to help women learn the knowledge and skills necessary to work on industrial worksites and apprentice as, for example, welders, steamfitters-pipefitters, electricians, boilermakers, and sheet metal fabricators. Upon completion of pre-apprenticeship training, the goal is for learners to be employed and obtain skilled trade apprenticeships. In the next section, I review recent actions concerning skilled trade training in Canada's industrial field.

Skill trade training in Canada's industrial field: The current context

Government, for-profit, and not-for-profit training programs have been put in place to introduce women to skilled trade careers (cf. Cohen & Braid, 2003; Sweet, 2003; Little, 2005; Watt-Malcolm, 2005). Often policy development depends on labour market demands and policy implementation and its *just in time* nature has not helped produce quality programs. I argue that these initiatives have not significantly increased the number of women employed as skilled trade workers in the industrial sector during the past century. The percentage of Canadian women working as skilled trade apprentices supports my assertion. According to data available from Statistics Canada (2003c), in 2001, approximately two percent of registered apprentices in the building construction trades (2.8 percent), the industrial and mechanical trades (1.6 percent), and the metal fabrication trades (1.8 percent) were women.

Currently, there is a perception among the general Canadian population that a limited number of skilled trade people are available to work in the industrial field, a notion confirmed by statistics. For example, Canada's aging working population combined with smaller numbers of entrants going into skilled trades due, in part, to fewer young people choosing trades as a career, contributes to this skilled labour shortage. Canadians who are working as skilled trade workers are getting older. In May 2001, the average age of a construction worker was 41 years (Construction Sector Council, 2006). Taking into consideration Canada's aging population, which is compounded by the decreasing number of birth rates; statistics indicate that by 2020, Canada will need another one million workers. By way of illustration, predicted labour shortfalls are that in five years another 50,000 skilled trade people will be needed to work in the metal trades, and in 15 years the manufacturing sector will require 400,000 more workers (Skills Canada, 2005). Sectors that use skilled trade workers, for instance, oil, gas, steel, automotive, and construction, just to name a few, are projecting the same trends – that there will be a lack of trained people available to meet the labour requirements necessary to maintain and advance businesses and industries.

Stories commonly shared on jobsites that highlight the rough and tough masculinized nature of skilled trade work continue to influence people's opinions about the industrial field. These stories reaffirm for people that skilled trade occupations are not careers to be taken on by most individuals, especially women. Moreover, these stories reiterate Bourdieu's (1998) habitus concept where principles guide peoples' practices and attitudes. Attitudes persist despite initiatives, such as women-only training programs that I describe below, designed to convince women that skilled trades are viable careers,

especially since many employers are looking for skilled trade labour. Other recent initiatives include socio-cultural awareness campaigns and political actions by means of governments, unions, and non-union organizations policies to encourage non-traditional workers (e.g., women, Aboriginals, youth, ethnic minorities, and persons with disabilities) to consider trades as a career.

Other agencies are offering potential workers opportunities to acquire employable skills. Notwithstanding this situation, it is difficult for women, who typically do not have pre-requisite skills; established networks; family, school, and employer support; or the confidence, to apply for trade-related positions. Women-only pre-apprenticeship training programs designed to prepare women for careers in the skilled trades deliver a much-needed service for women who want to work in the industrial field and for employers who need willing, knowledgeable, entry-level workers.

I document in Chapter 2 that the advent of recent promotion of skill training is somewhat contradictory in that women's access to training drastically decreased in 1990s because of: a) the elimination of the Designated Group Policy (DGP) – a policy that supported the training of women, Aboriginals, ethnic minorities, and persons with disabilities, b) changes to the federal government's *Employment Insurance Act* (EI) – an act governing the distribution of federal monies to unemployed Canadians, c) implementation of Labour Market Development Agreements (LMDA), and d) reduction of federal monies available for training. Despite the abolition of the DGP and funding changes, some provincial and territorial governments (Yukon, Saskatchewan, Newfoundland, Ontario, Nova Scotia) continued to support training programs for women (Ursule Critoph Consulting, 2002).

The responsibility for skill training has been given more generally to the provinces and territories because in 1996 the federal government repealed the *National Training Act*, revamped the EI system, and implemented LMDAs. Within the parameters of the LMDAs, federal monies are transferred to all provinces and territories. Monies are managed according to these agreements (ACTEW, n.d.). LMDAs and their strong links to EI offer provinces and territories little leeway in distributing the training dollars transferred to them by the federal government (Ursule Critoph Consulting, 2002). As a result, many women who work part-time or may be trying to re-enter the workforce do not have access to training monies because they are not eligible for EI.

It is within these political and economic conditions that employment training programs are designed. They are organized interventions calculated to develop the skill and knowledge base of potential employees according to their interests and current and projected labour requirements. Training quality determines the degree of personal growth, skill attainment, employment possibilities, and career advancement. In Canada, there are numerous training programs designed and implemented to increase workforce skill levels, which, given the present need for skilled labour in the industrial and construction sectors (cf. Construction Sector Council, 2006), are beneficial for people who enroll in training programs to boost their employment prospects. Despite the apparent labour shortfalls in specific occupations, of which skilled trades are included, there are few programs in operation with the mandate to teach women the skills considered necessary to work in the industrial and construction fields and even fewer programs offering the skills and knowledge required to enter the apprenticeship system.

Pre-apprenticeship programs are often delivered by colleges, technical institutes, and for-profit and not-for-profit organizations. Taylor (2006) maintains that partnerships may be established to promote effective use of organizational resources. Some of these training agencies have forged partnerships to pool their resources to obtain their goals. Program goals are to help trainees learn job-related skills and upgrade high-school credentials. Even with the increase in job-specific training opportunities, Maxwell (1998) remarks that Canadians who have little formal education and/or have not formed a strong relationship with an employer, in general, do not pursue or have access to formal training.

In support, Peters (2004) observes that, in 2002, 18 percent of Canadians with less than or equal to high school credentials participated in a formal training program in contrast to people with college or trade certifications (38 percent) or university qualifications (52 percent). Furthermore, the number of workers sponsored by employers has decreased, yet adults who participated in formal training programs geared to advance job-specific skills increased in all provinces in 2002. This trend indicates that adults are using their own resources such as time and money to obtain additional skills. To alter the tendency for people who do not have the means to access training, especially women who have had little success in the elementary and secondary school system (mandatory schooling required of Canadian youth), bridging programs offer trainees ways to acquire employable skills and transition to industrial workplaces.

Women-only pre-apprenticeship training programs are not new; however, the underlying philosophy of some programs is more apt to promote student learning and work opportunities. Training programs built with collaboration among training organizers, government, industry, and post-secondary institutions have a strong

foundation from which to build a quality training program. Central to this collaborative effort are the intersections of communities of practice, conditions of learning, and pedagogical strategies.

The underlying premise that defines the conditions of learning is the links to a community of practice, the industrial field, with consideration for, as described by Fuller and Unwin (1999), pedagogical, occupational, locational, and social dimensions. This approach has been extremely successful in that often overlooked issues, such as workplace habitus, are addressed and corresponding connections are identified. In the following sections, I analyze three training organizations and their women-only pre-apprenticeship programs by way of my research participants' comments about their experiences and related scholarly literature.

Skilled trade bridging programs for women: Starting from the basics. Gendered inequalities still exist in Canada's workplaces and skilled trade careers are typically seen as unsuitable occupations for women. As noted previously, Tilly (1998) labels this deeply-rooted view as "*durable* inequality" (p. 6). Sustained discriminations are often based on preconceived notions about identifiable people's (e.g., women or men) abilities and capabilities. Categories and assumptions that emerge from these preconceptions become embedded in social, political, and economic constructs. This observation is evident when examining governments and their funding targets, employers and their organizational mandates, and workers who typically adhere to established practices embedded in the habitus and further maintained by employer and government regulations.

Classifications and assumptions about people's abilities and capabilities are also noticeable in the employment training sector. Butterwick (2003) argues that training for non-traditional groups assumes "one size fits all" in that "all participants in government-funded job training programs have the same needs and social biographies" (p. 162). In the past, according to Hart and Shrimpton (2003), formalized bridging programs designed to train women in non-traditional occupations were limited and further restricted by accepted workplace norms and traditions.

However, as discussed in Chapter 6, some would suggest that women are not interested in skilled trade training. Women have choices about their career pathways and tend not to take up skilled trade careers. If one follows this thread, then it is not the traditions and norms that have limited access for women; rather, it is the women themselves who have selected their training directions. In support, Sweet (2003) points out that many women chose college training as opposed to skilled trade training because of their interests. In addition, based on my work and education experience, I suggest that women tend to shy away from industrial skilled trade work because of perceived and/or real difficulties in learning and working in unfamiliar highly masculinized work environments. Bourdieu (1998) maintains that habitus is shaped by an individual's family and school as well as his/her work environment, which creates a "unitary set of choices of persons, goods, and practices" (p. 8). D. Smith (2000) suggests that in the school system, gender, race, and class are "dynamic and exclusionary groupings" (p. 1149) that contribute to students' identities. Other researchers (cf. McKinnon & Ahola-Sidaway, 1995; Siann & Callaghan, 2001; Lehmann & Taylor, 2003) argue that primary school as well as family backgrounds are significant predictors of occupational pathways. People

who are not associated with the industrial field are less likely to consider skilled trades as a career option.

But there are programs that help women overcome the idea that skilled trades are not suitable occupations for women. The training providers I interviewed for this research represent eastern, western, and northern Canada. I use the term "training provider," but stress that these people are also responsible for developing, implementing, and organizing their pre-apprenticeship programs. Although a training provider notes that "it's nothing new; there have been programs like this" (I-7, p. 4) in Canada, I argue that these people have developed quality training programs. In the following paragraphs, I present support for this assertion. These training providers have created learning environments that make it possible for women who have had little success in previous training situations to acquire the *tools* they need to be successful in the skilled trades.

Training providers have developed their programs through a process of trial and error, extensive research, and personal understandings about the ways people learn. Their pedagogical approach is based on traditional training practices entrenched in the industrial field – apprenticeship training, which further supports women's transitions from their pre-apprenticeship training to formal government-legislated apprenticeships. These organizations have taken on the responsibility to: a) help women learn how to work in Canada's industrial field, b) help women use these skills to obtain employment, and c) help women develop positive and healthy personal identities.

Table 7 below, outlines some distinctive characteristics of three organizations and their bridging programs.

Table 7. Characteristics of Selected Canadian Skilled Trade Bridging Programs

Characteristics of Selected Canadian Skilled Trade Bridging Programs

Characteristics	Selected Canadian Training Organizations		
	Western Canada (WCP)	Eastern Canada (ECP)	Northern Canada (NCP)
Basic structure	• Not-for-profit	• Not-for-profit	• Not-for-profit
Programs offered	• Bridging program to introduce women to skilled trades • Sessions to introduce women to skilled trades	• Bridging program to introduce women to skilled trades • Sessions to introduce girls to skilled trades	• Bridging program to introduce women to skilled trades • Sessions to introduce women and girls to skilled trades
Mandate	• To promote economic security for women • To encourage women to acquire skills to obtain work in the trades	• To promote economic security for women • To encourage women to acquire skills to obtain work in the trades • To encourage girls to consider trades as a career	• To encourage women to acquire skills to obtain work in the trades • To encourage girls to consider trades as a career
Sector targeted for skill training and employment	• Industrial • Commercial • Residential	• Industrial • Commercial • Residential	• Industrial • Commercial • Residential
Original model	• Community initiative	• WITTNN[1]	• WITTNN[1]
Current funding sources	• Provincial government • Federal government • Private donations • Community groups • Corporate donations • Industry foundations • Businesses	• Provincial government (with links to colleges and technical institutes) • Federal government • Private donations • Corporate donations	• Territorial government (with links to colleges and technical institutes) • Community groups
Current policies supporting training	• Provincial integrated training policy (in part)	• Provincial training policy targeting women	• Territorial training policy targeting women

[1] Women in Trades and Technology National Network sectoral council.

As identified in Table 7 above, there is a combination of funding sources that support these bridging programs. Partnerships with post-secondary systems such as colleges and technical institutes also shape program accessibility, delivery, and outcomes. Another element for determining the viability of pre-apprenticeship training programs is the activity levels of Canadian industries and employers. Although most sectors, for example, industrial (oil and gas, chemical, pulp and paper), commercial (institutional-type construction), and residential (new houses, home renovation) are present throughout

Canada, where these industries are located significantly influences training program success. For example, western Canada has experienced significant economic growth in the natural resource sector. This growth has created a skilled labour shortage throughout Canada in some apprenticeable trades. Thus, there is work available for those people interested in working in the industrial sector, especially individuals with some previous knowledge and skills.

Formation of these pre-apprenticeship programs is attributed to small groups of women in diverse locations who envisioned different futures for impoverished women. In the case of WCP, according to a training provider I spoke with during an interview, it was a group of women involved in community development to help women become economically secure (I-7). Similarly, another training provider conveys that the ECP was conceived because a few women had a vision to improve women's economic equality by introducing trades and technology careers (I-10). In contrast to these two programs, the impetus for NCP is founded on the intersections of government-directed events and recognition that skilled trade labour shortages were imminent.

The original training model of ECP and NCP bridging programs can be traced to the Women in Trades and Technology National Network (WITTNN) – a sector council established in 1988 (Sharpe, 1997). As highlighted in Chapter 4, the sector council structure is guided by the Sectoral Partnerships Initiative (1992) under the direction of Human Resources Skills Development Canada (HRSDC, 2004). Although WITTNN no longer has official status as a sector council, the legacy of their mandate to advance trades and technologies as attainable occupations to women is evident in the ECP and NCP bridging programs. But WITTNN's advocacy of trades and technology careers for

women carried with it a feminist underpinning, which, for the NCP created some difficulties. NCP program staff have tempered their approach because it was seen as a radical by employers. They became aware their strategy to promote women as skilled trade workers did not advance their position with employers. If the employers are not on board, it is difficult for program staff to place their graduates. The NCP training provider contends that their approach hindered their goal to help women gain sustainable employment (I-8). In my experience, employers will hire women; however, employers are usually men who embody the masculinized habitus.

Initial funding made it possible for bridging program organizers to develop a plan of action. However, revisions of federal policies, for example, elimination of the DGP, changes to the EI system, and implementation of LMDAs in the mid-1990s forced program founders to reassess their organizational needs. Policies put in place or abandoned seemingly at the whim of politicians, create hardships for organizations relying on government policies and related funding mechanisms. Withdrawal of government-based funding often means the demise of bridging programs unless staff have established other financial supports.

A training provider shares that the WCP originally relied on government short-term contracts, but soon realized they needed to diversify their financial base and incorporate mechanisms to earn their own income (I-7). In a similar fashion, ECP staff also wanted to diversify their funding base although the strategy was somewhat different than the WCP approach. In the beginning, ECP obtained monies from a federal-provincial agreement for a specified period of time. Near the end date of this financial commitment to fund ECP, program staff reframed the original project and began referring

to it as a pilot project. A training provider maintains that the end result of this strategy is long-term government funding, which was approved "after much fighting and struggle and a lot of meetings and breaking down barriers" (I-10, p. 9).

Likewise, NCP has an established funding base for students' training costs; however, it is now necessary to find alternate funding because the students do not have money for living expenses if they are not eligible for EI training allowances (I-8, Training Provider). Program organizers are aware that they must continually assess and reassess factors and seek solutions in order to fulfill their mandate to promote economic security for women. Similarly, it is possible to identify results, but these outcomes are in a constant state of flux depending on the labour and training markets, and Canada's political climate. Recognition that educational reforms do not act in isolation, but are an integrated part of a whole is critical (Levin, 2001). These programs are not the result of a single action or policy; more accurately, they are due to a combination of policies, people, and circumstances. A training provider avows that the current need for skilled labour has worked in their favour because "timing is everything" (I-7, p. 2). Nevertheless, from the outset, these organizers have continuously applied, changed, or ignored policies while still adhering to their original aim to help women learn how to work in Canada's industrial field.

Despite the shortcomings of many women-only bridging programs, Sweet (2003) recognizes that bridging programs may be successful if they recognize and coincide with students' interest, motivations, and abilities. To prepare women for careers in the skilled trades and to ensure student success, program organizers have put in place training that addresses not only safety, basic theory, skills, and construction terminology, but

programs that include courses on workplace culture, financial management, and physical fitness. Wismer and Lior (1994) purport that implementing a learner-centered curriculum is central to advancing women's success in training programs. Building into the curriculum appropriate teaching and learning strategies and course content that values diversities and differences, both in the classroom and the workplace, is critical (Women in Trades & Technology, 1993).

In the next section, I examine how three training organizations consider the communities of practice of the industrial field and the related conditions for learning. I also investigate how these organizations make use of this knowledge to implement specific pedagogical strategies to help women learn how to work as skilled trade workers.

Learning…apprenticeship style. Identification of the pedagogical, occupational, locational and social dimensions within the apprenticeship framework helps reveal the "regulatory structures in legitimating routes into occupational communities" (Ainley & Rainbird, 1999, p. 9). With an understanding of the routes to skilled trade occupations, people gain access to the industrial field. This access offers people, on the whole, the means to be economically stable, satisfaction in work accomplished, and pride in being a skilled trade person.

Lave and Wenger (1991) maintain that making a community culture or habitus transparent requires a study of artifacts and their embedded knowledge and skills. These authors make a valid point, but I argue there are nuances embedded in artifacts that do not emerge until legitimate participation is achieved by newcomers as determined by the habitus. The trainers of pre-apprenticeship programs in my research understand the

masculinized habitus, thus have implemented strategies to make workplace practices and traditions transparent. These training providers have also brought to light in a concrete manner how the habitus prevents many women from applying for skilled trade positions, or, if they do apply and get the jobs, they do not remain long in the field. With this knowledge, training providers have taken on the responsibility to educate not only their students, but government personnel, employers, employees, potential apprentices, and other stakeholders of the industrial field.

Embedded in these pedagogical strategies is the mandate to develop the means to question cultural traditions and practices of the industrial field, although, the training providers I interviewed for this study are cognizant that changing the culture is not an easy task and not a challenge that a small group of people can overcome in a short period of time. Organizational philosophies upon which the pedagogical strategies are built provide the necessary framework to promote women's learning. Women gain economic security, attain self-confidence, and have career goals that, at one time, seemed impossible. Pedagogical strategies used in the training programs are selected to expose women to the habitus, work in the industrial field, and question its practices – all with an understanding that many practices are built on the notion that this is the way it is. These strategies also reveal employers' recruitment and retention practices regarding tradeswomen. I explore these aspects in the next section.

Pedagogical strategies: Shifting who has custody of craft skills. A noticeable aspect in the pedagogical approach is the strategic partnerships these training organizations have forged with employers, colleges, past-graduates, government

personnel, and community agencies, and the express need to continue building partnerships. Organizers are aware that relationships and partnerships influence the degree of integration into occupational and organizational cultures (Taylor, 2006). However, there are tensions between partners because of conflicting motivations.

In spite of the tensions inherent in partnerships, a training provider illustrates the continuing efforts they undertake to ensure quality partnerships in that they work "with government on policy issues, advocating and lobbying with them. Doing the same with industry with regard to the policies that need to be put in place if the numbers of women are to be increased. Working with post-secondary institutions for the…same goals" (I-10, p. 4). In some parts of the industrial field, persuading employers to hire women graduates has been difficult. To counteract this trend, another training provider shares that they invite employers in to critique their curriculum and offer suggestions (I-7). This approach, in turn, helps educate employers and support ongoing efforts to strengthen partnerships, which will ideally advance women's learning and access to jobs and apprenticeships.

One advantage of developing partnerships is that the training providers are able to draw on their partners' expertise when determining their pedagogical strategies. These training providers have a philosophy, similar to Fuller and Unwin (1999), that the selection of pedagogical strategies should be premised on acknowledgement that the learner is a legitimate participant working towards membership status and must be exposed to how the industrial field operates. Attention is given to the official standards as well as the hidden criteria within this field (Bourdieu, 1984). For example, in the training context, official standards and criteria consist of attendance, appropriate attire, and

suitable attitudes and behaviours expected of an employee or potential apprentice. Hidden criteria refer to constructs such as gender. Bourdieu (2001) contends that gender as a secondary principle – it is not a field. Gender works across fields and is a fundamental element of individuals (McCall, 1992). Witz and Savage (1992) see the importance of examining gender relations as an integral aspect of workplaces rather than view these relations as *add-ons*. In most workplaces, and, in particular, industrial jobsites, gender is deeply entrenched in the social norms.

Embedded in the pedagogical strategies is evidence that supports the three techniques women use to counter locations of resistance that I conceptualized in Chapter 6: Ignore, accept, or challenge. There is the recognition that "women will never be one of the boys" (I-7, Training Provider, p. 17), thus part of the training for women is to give them survival techniques (I-12, Employer). In support, a training provider maintains that it is crucial for women to learn how to work on a crew and to "do your job…you don't have to be a door mat, but just show that you really want to be there" (I-8, p. 22). An unfortunate reality of learning how to work in the industrial field is that a woman has "to put up with a certain amount of the attitude; you have to live with it" (I-8, Training Provider, p. 46).

Unlike Sugiman's (1992) study participants, the women in my study do not appear to connect with other women because of their gender. In her study, as noted in Chapter 2, Sugiman documents how gender, not just class, form the basis for people to create common bonds. My study participants seem to reject gender as a common bond; rather, their links with co-workers are built on skill acquisition and knowledge and whether the woman can maintain employment in the industrial sector.

Other conditions that dictate learning, for example, employers' resistance to hiring women apprentices, work locations, habitus, organization of work, and physical nature of the work, are addressed by program organizers. Without an understanding of these conditions, which are sexist and exclusionary based on a gendered habitus, women will have difficulties in continuing in their trade occupations. Based on my research findings, I suggest that awareness of these constructs is as important as the trade skills and knowledge a woman may learn, if not more so. Training providers also realize that their learners have had little success in the formal secondary education system – often because connections between school and work were not made clear – and, as a result, these women have not been able to access sustainable well-paying jobs. In my discussions with the training providers, it is evident that they have seriously considered their learners, workplace structures, and the masculinized nature of the work before selecting learning strategies for their programs.

Main strategies to advance women's learning are women-only classes, role-modeling, hands-on skill training, introduction to workplace culture, exposure to worksites, job-shadowing, career investigations, labour market research, financial management, safety training, construction fitness training, personal development, and conflict resolution. Training providers also ensure that women are made aware of workplace harassment, gender sensitivity, stereotypes, and masculinized workplace culture (I-9, Government Representative).

The philosophy that underpins the pedagogical approach integrated into these pre-apprenticeship programs is described by one of the training providers: "[W]omen are not born to knowing how to cook and men are not necessarily born knowing how to use

power tools. We learn these things. It's just that women don't get the chance to use the power tools" (I-8, p. 42). In agreement, an employer asserts that, in order for women to be successful in the trades, it is necessary to expose women to the workplace and nuances of the occupational culture (I-3).

Another critical element incorporated into these programs is highlighted by an employer who states that women must be given opportunities to build self confidence and know they are capable of doing this work (I-4). Further support is offered by a ticketed trade person in that her biggest challenge was to learn how to "jump right in and try it" (I-6, p. 13). Implementing learning techniques such as hands-on training is often easier than strategies to build self-confidence. While some people would suggest skill acquisition and self-confidence building are complementary, in my experience, a person may have the skills, but is unable to gain the confidence to survive the organizational and occupational cultures of the industrial field.

There is also recognition that women's career choices are influenced by social pressures and familial responsibilities. Many training programs overlook, as Little (2005) describes, difficulties women encounter in the workplace, which are also present in training situations. Hardships, especially for low-income and/or marginalized women, include lack of childcare, little family support, poverty, and low self-confidence. Solutions need to be introduced to address these concerns. The three pre-apprenticeship training programs implement helpful strategies such as formalized *back-up* plans for childcare, elder care, and transportation. These strategies also help women prepare for their participation in the industrial workforce.

Notwithstanding the sound pedagogical strategies used in these programs, individual agency is vital to achieve success in training programs and subsequent employment in skilled trade careers. Each woman is responsible for learning the program content to acquire valuable skills and knowledge. During my interviews with the training providers, it is apparent that women are given numerous opportunities to learn how to succeed in their training. Women also receive ongoing support when they are out on the jobsites. Nonetheless, it is essential that women engage with the program content and gain confidence in their ability to meet or exceed occupational skill and knowledge requirements.

To meet the needs of women and potential employers, ECP, WCP, and NCP training providers have organized curricula in a sequence of learning activities: An introduction of a skill or knowledge component provides the foundation for the following activity. From a localized perspective, as discussed by Guile and Young (1999), this activity organization is similar to one interpretation of Vygotsky's zone of proximal development. Specifically, this theory articulates the difference in demonstrating acquisition of knowledge or skill between learners solving problems alone or in the presence of more experienced practitioners. Further, this teaching approach emphasizes connections of the changing historical relations between apprentices and journeyed people in the process of practice (Lave & Wenger, 1991; Engeström, 2001). Progressive learning activities are structured to move women towards legitimate participation in the industrial field. Program staff are convinced that women are more than capable of shifting from newcomer status to active participants. Upon acceptance into the program,

as noted by a program trainer, there is a strong belief that women are competent and capable (I-7, p. 19).

Within this framework, women are introduced to skilled trades such as, but not limited to, electrical, carpentry, sheet metal fabrication, welding, boilermaking, steamfitting-pipefitting, plumbing, crane and hoisting, and heavy equipment operation. They work with various hand and power tools central to these trades and learn the basics (I-8, Training Provider). Learners also receive their certification for Standard First Aid, CSTS (Construction Safety Training System), WHMIS (Workplace Hazardous Materials Information System), scaffolding, and fall protection.

Learners are also introduced to the artifacts or tools of the skilled trades and, if possible, the significance of these tools (Lave & Wenger, 1991). The cultural worth of artifacts as they relate to a community of practice is one aspect that is not entirely evident in the pre-apprenticeship training programs and is a subject that deserves further investigation. Briefly, artifacts of the skilled trades can be something as simple as how a person wears her/his hardhat, or as complex as the way a person uses hand and power tools. Even so, these programs have numerous genuine learning activities, which provide the impetus to motivate a woman to gain status as a legitimate peripheral participant – motivation is sustained through quality participation and an aspiration to be acknowledged as an expert. But to be considered an expert, first, the women must complete their pre-apprenticeship training and, second, obtain employment that leads to apprenticeships and journeyed status.

To reiterate, the strategies previously listed are intended to engage the learners by addressing a variety of learning styles (I-2, Educator). For example, a training provider

conveys that pedagogical strategies also include tours to jobsites because most students have never seen a jobsite (I-8). Reinforcing skills and knowledge acquired in the shop environment are the job-shadowing and work experience placements. Worksite visits, prior to graduating from a training program, offer women an opportunity to explore their future worksites. Eisenberg (1998), in her research of women who work in the construction trades, states: "Since construction sites are off limits to the public, most new tradeswomen's first day on the job was also their first glimpse of its sights, smells, and sounds. Just navigating the worksite could be a series of new experiences or challenges" (p. 41). Providing opportunities for women to visit jobsites and then, upon completion of the core program, secure work experience or job shadowing placements demonstrates sound pedagogical practices – a combination of practice and theory, which promotes transitions from school to work.

Not only are women exposed to the workplace and its idiosyncrasies, they are encouraged to use their skills, and safety training, and to situate their newly-acquired skills and knowledge in the workplace. Sweet (2003) further suggests that exposure to employers allows these potential employees to demonstrate their knowledge and employers tend to hire people whom they see as having relevant workplace knowledge. In this transition from the training environment to the industrial workplace, a training provider shares that women also know they have the support of their training organizations and can ask for assistance if required (I-10).

Prior to their job-shadowing and work experience placements, learners are given opportunities to conduct career investigations and labour market research. Perhaps one of the most powerful components of these pre-apprenticeship curricula is an introduction to

workplace culture. According to a training provider, skilled trade women serve as role models where women demonstrate they can do this work (I-7). Women trade instructors are familiar with trade jargon, habitus, and trade-specific skills. Nonetheless, this strategy does not always work. An employer has asked women to be role models for other women, but they declined his offer. In his experience, "I am not so sure that it's going to be a natural phenomena [that women will help other women]…you're going to have to work hard at it" (I-12, Employer, p. 24). In spite of this employer's experience with women role models, a training provider believes that all-women classes with women role models make a difference where students start with the basics, the hands-on work, in a non-threatening environment (I-8). This training provider states that women-only pre-apprenticeship training programs have proven to be successful because:

> [W]hen we grow up we are conditioned to think that men grow up knowing how to use power tools. Women miss a lot of the experiences that men have in that respect and what we are giving them are the first baby steps and once they get over the initial trepidation, hesitancy, shyness….they are so willing to try and they look forward to trying in a very non-competitive space. (I-8, p. 38)

Notwithstanding the merit of all women-classes with female role models and instructors, since women are entering workplaces that employ mostly men, trainers also bring in men trade instructors (I-8).

The success of these pre-apprenticeship training programs is measured in terms of the accomplishments of the women. Many women have completed their pre-apprenticeship training and are now working as skilled trade workers in Canada's industrial field. Since women-only pre-apprenticeship classes are small, these programs

have minimal impact on the numbers of women in the industrial field and statistics that document graduate data are scarce. Addressing the whole person in conjunction with an awareness of the community of practice that guide conditions of learning and pedagogical strategies demonstrates the value of these pre-apprenticeship programs. They help women acquire the *tools* they need to be successful in the skilled trades.

Through their dedication to help women gain skills to foster their economic security, WCP, ECP, and NCP staff: a) offer women the means to learn entry-level trade skills, which will help them obtain work as apprentices, b) present women opportunities to move out of poverty, and c) give women techniques to promote positive and healthy personal development. Just as important, in the words of a training provider: "We are aware that it would be irresponsible of us if we weren't vying to get policy changes that were going to make it easier for [our students]…to also be employed. So we work on all the levels, everything from the training for women right through to policy" (I-10, p. 5).

Conclusion

Pre-apprenticeship training programs designed to introduce the skilled trades to women and to promote their participation in related apprenticeships have had limited success in Canada; however, there are exceptions. These exceptions offer insights into how programs with effective strategies (i.e., choice, flexibility, learner-centered, long-term, and aware of gender norms) support women who do not typically have the necessary skills and knowledge or confidence to apply for positions in the industrial field as skilled trade workers.

Opportunities to learn entry-level skills, tool use, trade-related terminology, and exposure to the masculinized habitus within a safe learning environment are important considerations. This approach to pre-apprenticeship training is reflective of a philosophy that merges learning and job expectations through partnerships with industry and community, and for students, work experiences and job shadowing, jobsite tours, and interactions with industry stakeholders. These training programs are models that have the potential to inform current and future training policies because they put into practice what we know in theory.

CHAPTER EIGHT

CONCLUDING COMMENTS

It's like going to a foreign country. You have to follow the rules in that country...It's up to you to change, adapt or die. It's not up to the workplace to necessarily change although we try to, yes...women have to realize they are entering into a completely foreign environment and we have to prepare them for the realities of it. (Comment from a training provider)

In this research project, I investigated how policies and programs put in place by governments and associated agencies to advance Canadian women's participation in the industrial sector as skilled trade persons are acted out in the education setting and in the workplace. Throughout this study I theorized industrial workplace practices. I explored the question, how can I better understand the locations of resistance to the implementation of pertinent policies, programs, and funding initiatives despite the past and present demand for skilled labour within the trades that are commonly connected with industrial work in Canada?

According to the research participants' comments, juxtaposed with my analysis of scholarly literature and related documents, policies, programs, and funding initiatives are ineffective strategies to advance women work and learning in the skilled trades. Based on the research findings and thematic analysis, locations of resistance women encounter in the industrial field still exist even though there are demands for skilled trade labour in Canada's industrial field.

These locations of resistance are deeply entrenched; however, select pre-apprenticeship training programs provide women who are interested in learning how to work as skilled trade workers with strategies to manage these oppositions as noted in the opening quote by a training provider. Notwithstanding these observations, my participant sample is small. The total number of interviews is 26 with 14 participants. It is not possible to develop generalizations about or from these participants' experiences, but it is possible to disclose and discuss "social processes that have generalizing effects" (DeVault & McCoy, 2002, p. 753).

Ranson (1998) writes that theory offers a space in which to clarify ideas, in practice and in policy. Furthering Ranson's assertion, if the purpose of theory, or theorizing, as suggested by Beckett and Hager (2002), is to "explain and understand the phenomenon, in the hope that we can thereby more effectively deal with it, and perhaps even improve it" (p. 91), then the practical significance of this inquiry informs theory. Correspondingly my research, in a small way, has the potential to reform/inform practice. Theory from this perspective is a "critical challenge to practice by revealing the structures of power that underlie it" (Ranson, p. 50). To this end, I used Bourdieu's theoretical tools, field and habitus, as well as capital, legitimacy, symbolic violence, and reflexivity to theorize a classed and gendered workspace.

I also drew on a variety of theorists who are associated with the historical materialist tradition where I examined work practices located in their particular material conditions and political economy. An analysis of the participants' retelling of their experiences within the framework of Bourdieu's theory and the writings of historical materialist scholars exposed discriminations or misrecognitions that are embedded in

everyday workplace practices. Examining these experiences identified locations of resistance that women skilled trade workers find in the industrial field.

Locations of resistance

The skilled trades shortages in Canada have brought to the forefront the need to, once again, draw on backup labour pools such as women to fulfill industry's labour requirements. The current employment market is the impetus for numerous government agencies, industry organizations, and profit and not-for-profit training groups to create and implement incentives to promote trades as a viable career for women. These initiatives include media promotions and company-sponsored hiring perks and training incentives as well as government and corporate funding to help people access skill training. Yet, the number of women who work as skilled trade workers in Canada's industrial field has not significantly increased. Despite the efforts from various stakeholders to make industrial work attractive for women, one cannot disregard that many of the masculinized characteristics of the industrial field exist. There is still the perception among the general population that skilled trade occupations are not appropriate work for women.

Women who work in the industrial field as skilled trade workers are unusual even in the current climate of labour shortages. These women are pioneers. They do not conform to social norms because it is generally more acceptable, from a societal perspective, for women to choose careers in the teaching, nursing, or service occupations. Skilled tradeswomen often encounter people in these masculinized workplaces who resist, resent, and adamantly oppose their presence. In my experience, it is the stories that

maintain and promote the organizational and occupational cultures and their masculinized habitus with added support from government and corporate policies.

This research identified various aspects of industrial trade work that are used to establish a field (Bourdieu & Wacquant, 1992) including the relationships among stakeholders in all their diversities (Anheier, Gerhards, & Romo, 1995). From noticeably distinct points of reference, construction stakeholders include governments, educational and training institutions, unions, non-union organizations, owners, engineers, construction associations, special interest groups, municipalities and districts/regions, (sub)contractors, and skilled trade people. In one or more ways, stakeholders are involved in the design, construction, and maintenance of industrial projects. I also explored the habitus of skilled trade workers that, according to Bourdieu (1968), is constituted by the relations shaping people's behaviours, attitudes, and actions. As highlighted by the participants' comments, the industrial field's occupational and organizational culture becomes a frame that people use to comprehend and respond to situations and communications in particular ways (Morgan, 1998). Women monitor their actions and behaviours based on their knowledge of the workplace habitus to achieve legitimate worker status, which, at the same time, reinforces the masculinized work practices entrenched in industrial worksites.

This study articulated more fully the underlying interactions among stakeholders, which are the official standards and hidden criteria. These standards and criteria govern the valued actions and behaviors of the actors involved, but are not absolute. The journeywomen in this study believe they have opportunities to challenge or uphold the field structure. Individual agency does exist; hence, habitus can be transformed in degrees

and, along with it, the field in question. Women have the potential to "break gendered rules and patterns" (Whittock, 2000, p. 214) even in the industrial field, but, as indicated by statistics previously mentioned (see page 163), achievement of this goal is difficult given the small number of women who work as skilled trade workers on industrial sites.

But, women, just by their presence on industrial jobsites and, more importantly, through their ability to do the work can shift the masculinized habitus. Ideally, while on the job and doing the work, women also redefine the stereotypical industrial worker. Notwithstanding this observation, integral to field and habitus are Bourdieu's theoretical tools of capital, legitimacy, and symbolic violence. Throughout this discussion, although not always explicitly stated, there was an underlying thread of symbolic violence. Many women take on the masculinized habitus that many of the skilled trade workers adhere to. I make this assertion with confidence; for me, buying into select aspects of the habitus (e.g., work hard, play hard; maintain a solid presence; go toe-to-toe when necessary) made it possible to navigate this work environment. By means of the participants' words, skilled trade women engaged in a series of actions and behaviours, which shifted how they viewed their work roles. Women working on Canada's industrial jobsites and training in associated formal apprenticeship environments participate, often without conscious thought, in how they negotiate and renegotiate their positions in the industrial field.

The research findings confirmed that women still encounter locations of resistance. They typically use three strategies when they meet these oppositions: Ignore, accept, or challenge. For example, participants mentioned or alluded to: a) adopting a more masculinized persona, b) defending the masculinized nature of the industry, c)

cultivating a proper image – professional and serious, and d) endeavouring to do the job as good as, if not better, than a co-worker.

To make this field bearable for us, we find it beneficial to adhere to some of these norms (e.g., organization of work and stakeholder hierarchy), yet we do challenge the locations of resistance and perhaps shift the habitus. We find ways to manoeuvre within this masculinized culture to ensure we have a greater chance to remain in the field and excel at our skilled trades. In the act of engaging in these traditional activities, we do perpetuate the norms and traditions of the industrial field, the masculinized habitus, and what it means to be legitimate skilled trade workers. We agree to what is valued as capital. In sum, we do not have much choice if we want to work in this industry and become legitimate members of the industrial field. However, I add one caveat – the women workers in this study are skilled in their occupations. They are dedicated to learning the skills and knowledge of their trades. I commend them for their perseverance and determination to work in a challenging field.

Rethinking policy

> Employer discrimination operates largely through the installation of organizational boundaries rather than person-by-person differentiation. Workers' preferences conform significantly to built-in boundaries. Even state intervention…typically rests on categorical assumptions concerning capacities and propensities for different kinds of work. (Tilly, 1998, p. 107)

Canada's industrial field is a product of traditions, assumptions, and patterns of activities. In some areas, the industrial field closely resembles the early to mid 1900's

workplace; whereas, in other ways, and even within the same workplace, actions and attitudes are seemingly more reflective of progressive thinking around equity, quality training and education, safety and health, and human resource management guidelines. Tilly's comment in the above excerpt is indicative of the industrial field.

Most of the participants in this research knew about corporate and government policies that were available to help women access industrial work. An interesting observation is that specific participant sets were aware of different policies – it depended on their positions (e.g., employer, educator/training, employee, government representatives) and determination to use available resources to advance their mandates. Employers and training providers were familiar with the DGP and the LMDAs, yet the ticketed employees did not discuss these policies when asked about what polices they have used or accessed.

The participants who commented about the recent change in policy regarding equity groups the federal government supports specifically stated that women are no longer recognized as a federal equity group, which reduces women's access to federal training monies. The training providers and government representatives from the provinces/territories where women are treated as an equity group discussed these specific policies. Some employers were also knowledgeable about past funding policies that they used to subsidize employees' wages. However, these individuals suggested that these policies were short-term and were generally ineffective policies to recruit or retain women as skilled trade workers.

When I reflect on these conversations about policy, one of the significant realizations for me is that policies are only instruments, as Pal (2001) writes. Whether

individuals work with policy, ignore policy, or adapt policy depends on their organizations' mandates. One explicit example of my assertion, as shown in this research, is that training providers were aware of different policies, but also realized that in order for their programs to work, policies needed to be revised to help women learn how to work as skilled trade workers in the industrial field.

There are strategic ways to introduce women to the industrial field and skilled trade careers. The three training programs discussed in the previous chapter are models that have the potential to inform training policy. The characteristics of the industrial community form the basis upon which the training programs were designed. Conditions of learning developed by the training organizers took into consideration these notions. There was an underlying mandate to make the industrial field and habitus transparent by exposing its idiosyncrasies, cultural systems, and regulatory structures in order to prepare women and give them the tools they need to be successful in this field.

An ideal bridging program contains most, if not all, of the following components: a) choice of training program based on an individual's interests and career aspirations, b) flexibility and consideration of family and personal commitments, c) learner-centered and holistic program, d) longer program duration, e) safe learning environment, f) instructors who are role-models, and g) training that promotes success. Graduates need to have the necessary entry-level skills and knowledge to obtain long-term employment as skilled trade apprentices and achieve, in a timely fashion, their journey qualifications. Pre-employment preparation programs with a cursory overview of trade occupations and brief introduction to skills and tools tend to be less successful than programs with a more in-depth examination of skilled trade careers, tool use, skill application, safety training,

financial management, physical fitness, workplace culture, and specific reference to employer expectations.

Organizers of successful women-only bridging programs who introduce women to skilled trade occupations were aware of the deeply-entrenched masculinized workplace culture of the industrial field. Disregarding the overwhelming masculinization of the work environment by not incorporating related workplace culture courses is often the downfall of less successful women-only skilled trade training programs. A government representative during one of our interviews commented that the incorporation of gender-sensitive policies into the training program and techniques to improve communication skills for learners, instructors, and support staff would aid in promoting a positive learning environment. Underlying all of these strategies was the need to provide women with the skills to survive in the workforce – to learn the habitus. The following section outlines recommendations and directions for future research, policy, and practice.

Recommendations and directions for future research, policy, and practice

The research findings strongly support the idea that the current organization of skilled trade work needs some adjustments to make these workplaces more accessible for women. Industrial workplaces are not supportive workplaces for women, yet there are pockets of hope scattered throughout the field. However, the Canadian labour market continues to maintain its gender segregation despite pioneering women's efforts and determination to work in the industrial field.

Locations of resistance persist. As a skilled trade person, I know it is difficult to change the industrial field and the working class masculinized habitus – it is an old

culture. This field is riddled with stories that serve to present this field as harsh, unwelcoming, dangerous, dirty, and not appropriate workplaces for women. In addition to stories, official standards and hidden criteria are upheld and perpetuated by government and corporate policies. Official standards refer to, for example, labour legislation and government-sanctioned apprenticeship training. Private and public funded pre-apprenticeship training is also included in this category.

Whereas, hidden criteria are those underlying principles that shape relationships in the workplace. Gender is a key example of hidden criteria because it is a pivotal organizing factor for people. Deeply entrenched social norms affect women's occupational directions and, a case in point; women are not encouraged to take on industrial skilled trade work because they are not seen to have the necessary skills or aptitudes. Notwithstanding these assertions, I know that women can do the work and many of the research participants stated this same opinion. If women are given opportunities to learn the skills and knowledge of the skilled trades, they then have the confidence to perform industrial work. Moreover, men are learning to work with women in the industrial field. Yet, it is difficult for me to believe that since I started in the field, 30 years ago, ideas around gendered norms and inhospitable workplaces for women who wish to be a part of this field are still prevalent. In view of this observation, a couple of recommendations to enact change are:

- To implement focused junior and senior high curricula that encourage young girls and boys to engage in technical courses, which, ideally, will reduce notions around the gendering of occupations, and

- To promote the incorporation of courses that address gender equity with regard to occupations in teacher education programs.

By means of this study's findings, the industrial field, with its particular working class masculinized habitus, and locations of resistance, is exposed in such a way that it can be examined and analyzed, and a common language established as a basis for initiating discussion. In this study, I also investigate three training programs that have put into practice what we know in theory. Policies that support these kinds of training models have the potential to be successful, a notion that highlights a key policy recommendation:

- It is not necessary to reinvent the wheel. We have programs that work – governments, unions, non-union organizations, employers, and other stakeholders just need to support these programs.

While conducting my research within the guidelines of this study, it became readily apparent that additional research is required in a number of areas.

- A longitudinal study is required to track graduates from women-only pre-apprenticeship training programs through to completion of their formal apprenticeship programs to examine how these women apply their learning. This future study will assist in determining the social, economic, and learning experiences of women and how these training programs make a difference, if any, for their careers. An integral part of this study that will build on the information gathered in this research is to speak with newcomers to the industrial field. In particular, this proposed study would add to the data collected here about the structural, political, economic, and societal constraints within a policy framework.

- A deeper analysis of training programs using Lave and Wenger's (1991) communities of practice will further develop the notions presented in this research project. There is a potential to explore how communities of practice inform training practices and initiatives.
- An in-depth study to investigate more fully the three techniques women tend to use to navigate the industrial field: Ignore, accept, or challenge. This proposed study would look closely at how women negotiate the field and the habitus.
- Another direction for research is to explore the experiences of women who attempted to work in the industrial field and then quit. Theorizing these women's industrial work experiences has the possibility to offer insights about ways to make jobsites manageable for women. For example, when women are hired as skilled trade workers, should employers offer a preliminary session to explain the various terms, conditions, and expectations of the work? Should employers educate their workers about sexual harassment policies?
- Even though some scholars have looked at returns on training investments, an aspect that requires serious study would investigate the question of who is responsible for training. In this future study, it would be beneficial to consider the responsibilities and obligations of unions, non-union organizations, employers, owners, governments, employees, and potential workers as they relate to training skilled trade workers. A pertinent question to ask is: How do the different stakeholders' position themselves in the training arena? This research direction contributes to existing scholarly literature, for example,

Taylor's (2006) study about the challenges of partnerships between governments, employers, trainers, and schools to coordinate a high school apprenticeship program in Ontario.

- Moreover, a study to further examine partnership work and training policies would contribute to the scholarship in this area. For example, how do the different stakeholders interpret training policy and take it up. In my research, there was a perception that policies do not matter because they have largely been ignored. This observation is supported by the work of others who have explored gender equity policies in other fields. For example, Wallace's (2002) work on gender equity policy in the Ontario education system and Agoes, Burr, and Somerset's (1992) research on federal programs such as the Federal Contractors Program. Therefore, a study to explore further how stakeholders engage with policies or work around them deserves consideration.
- As is shown in this study, there are successful training models for women-only pre-apprenticeship training; therefore, an examination of why governments and other stakeholders have not supported these programs on an ongoing basis is needed. There is a notion that governments should invest more in training Canadians in light of the fact that a well-educated workforce contributes to and sustains the economy.
- Lastly, an in-depth analysis of class as it is conceived by stakeholders in the industrial field is a topic for research. It would be beneficial to examine how gender informs class especially within the scope of industrial relations (e.g., union or non-union organizational structures) and industrial skilled trade work

– work that has a tendency to be classified as blue-collar, proletarian, and working class. This proposed study builds on research conducted by Taylor, McGray, and Watt-Malcolm (2007) where they argue that VET partnerships are mired in contradictions that are found in labour power and capitalism. They also document that tension among social partnerships have implications for youth's access to high school apprenticeship opportunities and for the apprenticeship system in general.

In sum, this research has brought to the forefront the importance of continuing the investigation about the nature, structure, and organization of the industrial field and how these constructs influence and are influenced by historical and current social, political, and economic events. Undoubtedly, well-established gate-keeping mechanisms remain intact. I argue that it is important to persist in this examination within the framework of Bourdieu's theory to study the "workings of social power and offer a critical, not just a neutral, understanding of social life" (Postone, LiPuma, & Calhoun, 1993, p. 10). Increasing awareness about two critical structuring principles that work across most fields, gender and class, have the potential to reduce pockets of entitlement. Specifically, these principles, especially at an individual agent's level, present differing options for access to economic, social, cultural, and symbolic power or capital (LiPuma, 1993).

Further, Bourdieu (1990) states: "In a game, the field…is clearly seen for what it is, an arbitrary social construct, and artifact whose arbitrariness and artificiality are underlined by everything that defines it autonomy – explicit and specific rules, strictly delimited and extra-ordinary time and space" (p. 67). There is a historical legacy that is attached to various stakeholders in the industrial field. This legacy is conveyed by the

history of men and their stories. Despite the embedded meanings in these stories and how these stories uphold the locations of resistance, there is hope that the industrial field will become more receptive to women skilled trade workers. Hope is evidenced by the women and supportive men who have pushed the boundaries, and for those individuals who are taking up the challenge to reduce the locations of resistance to women working as skilled trade workers in the industrial field.

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APPENDIX

APPENDIX A: Interview Schedule

Apprentices and/or Journeypersons (women and men)

1. Describe your work and education history.
2. Describe your current work role(s).
3. When did you first consider working in an industrial trade?
4. Who/what motivated you to enter this career?
5. Who/what motivates you to stay in this career?
6. Is this the career that you wanted or expected?
7. Did you experience any barriers (obstacles) entering your career? If yes, what are they?
8. Do you experience any barriers (obstacles) while you are working? If yes, what are they?
9. Have you used or are you aware of policies and/or initiatives to help you in this career?
10. How have these policies been effective/ineffective?
11. What other factors has helped you in your work and your learning?
12. What are the most positive aspects of your job?
13. What are the most negative aspects of your job?
14. What are the most positive aspects of your trade training?
15. What are the most negative aspects of your trade training?
16. Would you like to share any stories about your career? If yes, what are your stories?

Apprentices and/or Journeypersons (women)

1. Do you see yourself as working in a nontraditional occupation? What does this mean to you?
2. Do you see yourself as a role model for other people? How does this affect your work/learning?

Employers

1. Describe your work and education history.
2. Describe your current work role(s).
3. Are your jobs mainly within the urban area or are they located in remote locations?
4. Do you hire women for your industrial work? In town? Remote locations?
5. What are your experiences with women on the job site? In town? Remote locations?
6. How do your field personnel perceive/receive women on the job site?
7. What issues or concerns do you have regarding women on the job site?
8. Do you actively promote apprenticeships? For men? For women?
9. Have you used or are you aware of policies and/or initiatives to help your trade employees?
10. How have these policies been effective/ineffective?
11. What techniques, if any, do you use to recruit and retain industrial trade women?

APPENDIX A: Interview Schedule (continued)

Apprenticeship Education Providers and Government Representatives

1. Describe your work and education history.
2. Describe your current work role(s).
3. Have you provided training for women in this apprenticeship program? If yes, how many?
4. What are your experiences with women in this learning environment? With yourself? With others?
5. How do other students/instructors perceive/receive women in the classroom and the shop?
6. What issues or concerns do you have regarding women working towards their journey status in this trade?
7. Have you used or are you aware of policies and/or initiatives to help your students? If yes, what are they?
8. How have these policies been effective/ineffective?
9. What techniques do you use to advance women's learning in this apprenticeship program?

APPENDIX B: Sample Request for Contact Information Letter 1

Date

SUBJECT: Women in the Trades

Dear *Name of the person*:

The purpose of this letter is to request the help of your organization to contact women who currently hold an industrial/construction trade certificate and/or are registered apprentices (e.g., industrial and mechanic trades, metal fabricating trades) and ask their permission for me to contact them.

I am a University of Alberta graduate student under the supervision of Dr. Beth Young and Dr. Janice Wallace, Department of Educational Policy Studies. I am conducting a research study entitled "Women in Trades: Policy in Theory and Policy in Practice". The purpose of my research project is to investigate how policies put in place to promote women's participation in the industrial trades are acted out in the education setting and in the workplace. If applicable, this data will be used to suggest policy improvements (i.e., education, government, etc.) to advance women's work and learning opportunities in the industrial trades.

I would like to meet with you at your convenience to discuss my request. I will call you in about ten days to arrange a meeting. My telephone number is 780-474-8286 and my email is bjwatt@telus.net. Thank you in advance for considering my request.

Yours sincerely,

Bonnie Watt-Malcolm

APPENDIX C: Sample Request for Contact Information Letter 2

Date

Dear *Name of Participant*:

The purpose of this letter is to outline more fully my research, the benefits to you, how I will use the research data, and to thank you for considering being part of this research. The corresponding Consent Letter details the names of my supervisors, my contact information, and further describes the ethical guidelines governing this research including the option to withdraw from this study at any time without penalty and that your name and organizational affiliation will be kept confidential.

I am a doctoral student at the University of Alberta, Edmonton, Alberta. As part of my doctoral work, I am currently researching how policies and programs put in place by governments and associated agencies to advance Canadian women's participation in the industrial/ construction sector as skilled trade workers are acted out in the education setting and in the workplace.

Throughout the last century, policies and related programs have been put in place to solve the "why are there not more Canadian women in the trades" issue. Canadian governments, associations, and companies, all with good intentions, have and continue to allocate monies for training/education programs; media campaigns to promote trade apprenticeships as worthwhile career choices; and bridging programs to introduce women to a variety of trades offered by governments, schools, and non-profit organizations. Despite the development and subsequent implementation of these policies and programs, the number of women who work as skilled trade people in the industrial sector has not increased significantly during the past 25 years. This observation is based on my extensive and long-term involvement with the industrial sector through my work, education, volunteer, and research activities and is of particular concern when policies and corresponding programs intended to increase women's presence in the trades are taken into account.

An important component of this research is the women's learning and work experiences. In this part of the study, I am looking at pre-apprenticeship and apprenticeship training programs, such as the one you are associated with, to further explore women's experiences of learning trade skills and knowledge. Within this framework, I am curious as to why particular programs are extremely successful and one of the ways to find out the reasons for their success is to talk to the students who are enrolled in these pre-apprenticeship training programs.

The benefits to you, as a participant, include: a) sharing your work and learning experiences, b) helping other women think of trades as a viable career option, and c) describing, from a practical perspective, what works for women to increase their learning about trade skills and jobsites.

The data from my research will be used, in some small way, to help promote policies, programs, and other initiatives designed to advance trades-related learning and work for women. I hope to continue in this direction upon completion of my thesis using, in part, the data I have gathered to contribute to and build on the scholarship and work that has already been done in this area.

This research complies with the University of Alberta ethics guidelines. If you agree to participate in this study, your identity will remain anonymous. As well, you be will be referred to as a learner, student, and participant or similar, of a pre-apprenticeship or bridging program in Canada. Thank you for considering being part of this research.

Yours sincerely, Bonnie Watt-Malcolm

APPENDIX D: Sample Consent Form

I, _____, agree to participate in a research project.

I understand the nature of the project, its focus and rationale, according to the information (consent) letter provided to me.

I agree to be interviewed by Bonnie Watt-Malcolm under the following conditions:

1. I have the right to withdraw from the project at any time. If I choose to do so, the information I provide will be returned to me and not used in the project.
2. My identity will be kept confidential and a pseudonym used in all materials.
3. The researcher will endeavor to ensure that no harm will come to me through my participation in this project.

Please place a check by the activities that you are willing to participate in during this study:

- ☐ Participate in two interviews of not more than 120 minutes each that will be tape recorded.

I understand the interview may be transcribed and used for doctoral research, conference papers, presentations, and publications.

I agree to these conditions:

Signed: _____

Date: _____

Researcher:

Signed: _____

Date: _____

For further information regarding the purpose and methods of this project, feel free to contact either of the following:

Bonnie Watt-Malcolm	Dr. Beth Young, supervisor	Dr. Janice Wallace, supervisor
Telephone: (780) 474-8286	Telephone: (780) 492-7617	Telephone: (780) 492-3373
E-mail: bjwatt@telus.net	E-mail: beth.young@ualberta.ca	E-mail: wallacej@ualberta.ca

The plan for this study has been reviewed for its adherence to ethical guidelines and approved by the Faculties of Education and Extension Research Ethics Board (EE REB) at the University of Alberta. For questions regarding participant rights and ethical conduct of research, contact the Chair of the EE REB at (780) 492-3751.

APPENDIX E: Sample Consent Letter

Date

Dear *Name of Participant*:

This letter is to formally request your participation in a study for my doctoral research. My supervisors are Dr. Beth Young and Dr. J. Wallace, Educational Policy Studies, University of Alberta. I am conducting a research study entitled "Women in Trades: Policy in Theory and Policy in Practice." The purpose of my research project is to investigate how policies put in place to promote women's participation in the industrial trades are acted out in the education setting and in the workplace. This study will focus on selected tradespersons/apprentices, employers, and educators working with the industrial trades. These skilled trades are often associated with Canada's oil and gas, pulp and paper, and chemical industries.

I would ask you for your help in this study. Your participation will include two face-to-face or telephone audio-taped interview (maximum 120 minutes in length). Your participation in this study is voluntary. If you choose not to participate or you choose to withdraw from this study, you have the right to opt out at any time without penalty. Any questions regarding the research can be directed to Bonnie Watt-Malcolm via telephone 780-474-8286 and/or e-mail bjwatt@telus.net or my supervisors, Beth Young (telephone 780-492-7617 and/or e-mail beth.young@ualberta.ca) and Janice Wallace (telephone – 780-492-3373 and/or e-mail wallacej@ualberta.ca). The research results will be made available for your perusal upon your request to Bonnie Watt-Malcolm via telephone or email. The data obtained from this research will be used for doctoral studies. I also anticipate using this information for conference papers, presentations, and publications. Any data that will be used will comply with the University of Alberta research ethics standards.

If you agree to participate in this study, your anonymity will be maintained through the use of a pseudonym. Only the researcher conducting the study will know your identity. Data collected during this study will be secured in the researcher's office for a minimum of five years following completion of research and any identifying information will be removed.

Your participation in this study is greatly appreciated. By reviewing and signing the attached Consent Form, you are agreeing that you have been provided with informed consent for participation in this study and wish to participate.

Yours sincerely,

Bonnie Watt-Malcolm

APPENDIX F: Sample Confidentiality Agreement

This form may be used for individuals hired to conduct specific research tasks (e.g., transcribing, interpreting, translating, entering data, shredding data).

Project title:

I, _____, the _____ (specific job description, e.g., interpreter/translator) have been hired to _____.

I agree to:

1. keep all the research information shared with me confidential by not discussing or sharing the research information in any form or format (e.g., disks, tapes, transcripts) with anyone other than the *Researcher(s)*.
2. keep all research information in any form or format (e.g., disks, tapes, transcripts) secure while it is in my possession.
3. return all research information in any form or format (e.g., disks, tapes, transcripts) to the *Researcher(s)* when I have completed the research tasks.
4. after consulting with the *Researcher(s),* erase or destroy all research information in any form or format regarding this research project that is not returnable to the *Researcher(s)* (e.g., information stored on computer hard drive).
5. other (specify).

_____	_____	_____
(print name)	(signature)	(date)

Researcher(s)

_____	_____	_____
(print name)	(signature)	(date)

APPENDIX G: Sample Second Interview Letter

Hello *Name of Participant*,

I am currently working with the data for my study entitled "Women in Trades: Policy in Theory and Policy in Practice." I am investigating how policies put in place to promote women's participation in the industrial/ construction trades are acted out in the education setting and in the workplace.

I am wondering, since our first interview, if you have anything else to add on the topics that we discussed.

If yes, arrange a date and time for the second interview.

If no, thank you for your time.